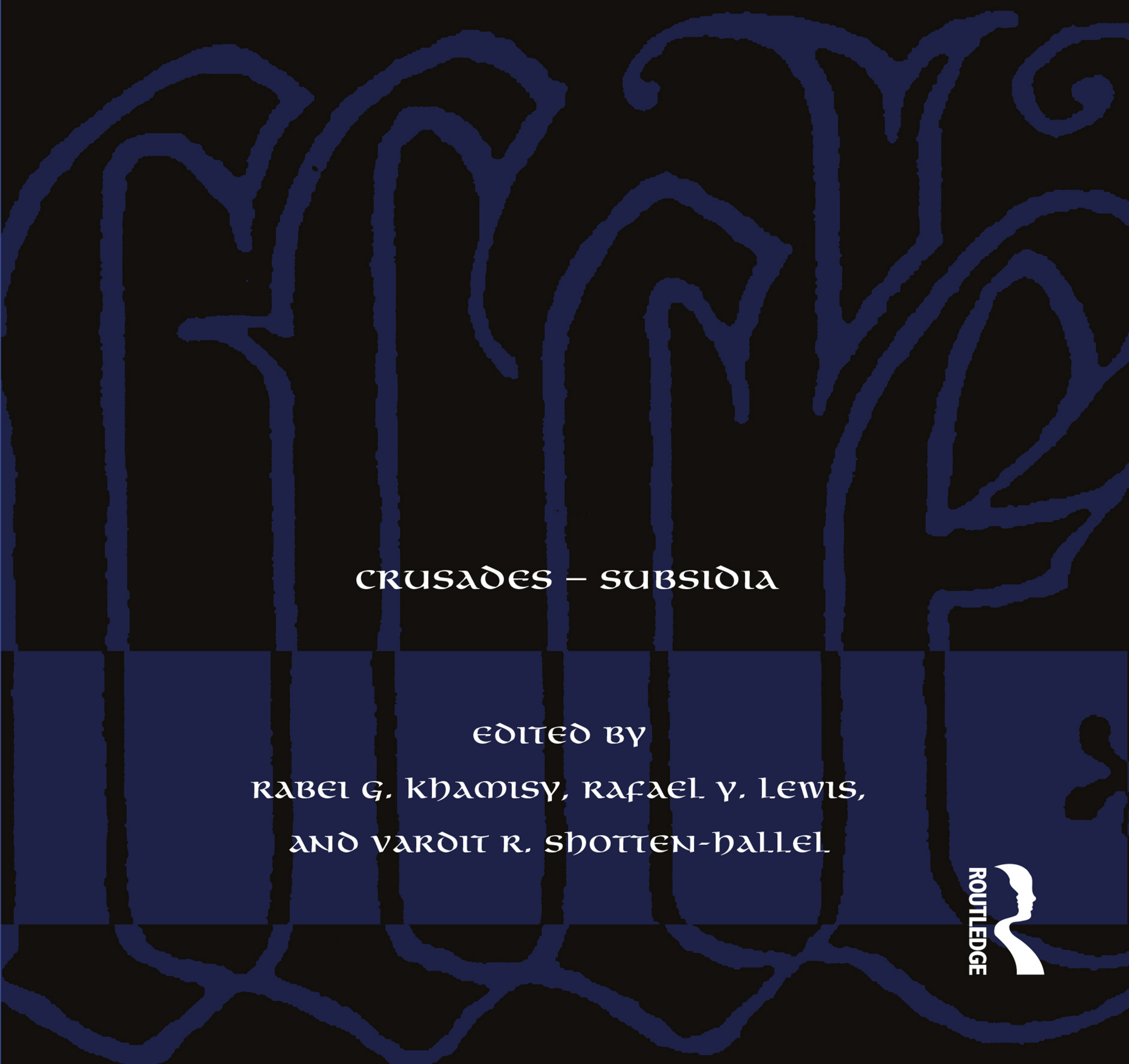
EXPLORING OUTREMER VOLUME II

STUDIES IN MEDIEVAL HISTORY IN HONOUR OF ADRIAN J. BOAS



CRUSADES – SUBSIDIA

EDITED BY
RABEI G. KHAMISY, RAFAEL Y. LEWIS,
AND VARDIT R. SHOTTEN-HALLEL

ROUTLEDGE

Exploring Outremer Volume II

This collection is published in the Crusades Subsidia series in honour of Professor Adrian J. Boas, an archaeologist, historian and scholar who has contributed widely and significantly to the study and teaching of the Middle Ages. Professor Boas' research encompasses the archaeology of the Latin East, military orders with particular emphasis on the Teutonic order, material culture, architecture and medieval art, historiography, and not least, the Crusades and the Latin East.

Exploring Outremer Volume II is a collection of 15 original essays by the leading scholars in the field on the history and archaeology of the Latin East. It covers aspects dealing with the history, archaeology, architecture and function of several castles and fortifications in the Latin Kingdom, and presents new studies on the material, including pottery, numismatics and many other finds. In addition, it includes a chapter dealing with landscape archaeology.

This book will appeal to researchers and students alike interested in the Kingdom of Jerusalem and Duchies of Edessa and Antioch, as well as the Crusades and Crusading Orders.

Rabei G. Khamisy is a senior lecturer at the Department of Archaeology in Haifa, and a member of the Zinman Institute of Archaeology. His current field work includes excavations in the Frankish sites of Montfort castle, Castellum Regis and Khirbat al-Manhata, as well as excavations in the Templar fort at Dor.

Rafael Y. Lewis is a senior lecturer in the Department of Land of Israel Studies at Ashkelon Academic College, a senior fellow at the W. F. Albright Institute of Archaeological Research and a research associate at the Zinman Institute of Archaeology in the University of Haifa.

Vardit R. Shotten-Hallel is an architect and archaeologist working in the Archaeological Research Department, Israel Antiquities Authority. Her research focuses on medieval architecture, particularly building materials and technologies in the Latin Kingdom of Jerusalem. She is currently leading the research project on ʻAtlit Castle.

Crusades – Subsidia
Series Editor: Christoph T. Maier
University of Zurich, for The Society for the Study of the Crusades and the Latin East

This series of 'Subsidia' to the journal '*Crusades*' is designed to include publications deriving from the conferences held by the Society for the Study of the Crusades and the Latin East along with other volumes associated with the society.

The scope of the series parallels that of the journal itself: *Crusades* covers seven hundred years from the First Crusade (1095–1102) to the fall of Malta (1798) and draws together scholars working on theatres of war, their home fronts and settlements from the Baltic to Africa and from Spain to the Near East and on theology, law, literature, art, numismatics and economic, social, political and military history.

Recent titles in the series:

The Fifth Crusade in Context
E.J. Mylod, Guy Perry, Thomas Smith and Jan Vandeburie

Crusading and Archaeology
Vardit R. Shotten-Hallel and Rosie Weetch

Settlement and Crusade in the Thirteenth Century
Judith Bronstein, Gil Fishhof and Vardit R. Shotten-Hallel

Exploring Outremer Volume I
Studies in Medieval History in Honour of Adrian J. Boas
Edited by Rabei G. Khamisy, Rafael Y. Lewis, Vardit R. Shotten-Hallel

Exploring Outremer Volume II
Studies in Crusader Archaeology in Honour of Adrian J. Boas
Edited by Rabei G. Khamisy, Rafael Y. Lewis, Vardit R. Shotten-Hallel

For more information about this series, please visit: "www.routledge.com/Crusades – Subsidia/book-series/SUBSIDIA"

Exploring Outremer Volume II

Studies in Crusader Archaeology in Honour of Adrian J. Boas

Edited by Rabei G. Khamisy,
Rafael Y. Lewis,
Vardit R. Shotten-Hallel

Routledge
Taylor & Francis Group
LONDON AND NEW YORK

First published 2023
by Routledge
4 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge
605 Third Avenue, New York, NY 10158

Routledge is an imprint of the Taylor & Francis Group, an informa business

© 2023 selection and editorial matter, Rabei G. Khamisy, Rafael Y. Lewis, Vardit R. Shotten-Hallel; individual chapters, the contributors

The right of Rabei G. Khamisy, Rafael Y. Lewis, Vardit R. Shotten-Hallel to be identified as the authors of the editorial material, and of the authors for their individual chapters, has been asserted in accordance with sections 77 and 78 of the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or utilised in any form or by any electronic, mechanical, or other means, now known or hereafter invented, including photocopying and recording, or in any information storage or retrieval system, without permission in writing from the publishers.

Trademark notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

British Library Cataloguing-in-Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging-in-Publication Data
Names: Khamisy, Rabei G., editor. | Lewis, Rafael Y., editor. | Shotten-Hallel, Vardit, editor. | Boas, Adrian J., 1952– honouree.
Title: Exploring Outremer / studies in medieval history in honour of Adrian J. Boas / edited by Rabei G. Khamisy, Rafael Y. Lewis, Vardit Shotten-Hallel. Other titles: Studies in medieval history in honour of Adrian J. Boas
Description: Abingdon, Oxon ; New York, NY, 2023. | Series: Crusades subsidia | Includes bibliographical references and index.
Identifiers: LCCN 2022053164 (print) | LCCN 2022053165 (ebook) | ISBN 9780367705657 (v. 1 ; hardback) | ISBN 9780367705664 (v. 1 ; paperback) | ISBN 9780367705596 (v. 2 ; hardback) | ISBN 9780367705602 (v. 2 ; paperback) | ISBN 9781003146957 (v. 1 ; ebook) | ISBN 9781003146926 (v. 2 ; ebook)
Subjects: LCSH: Latin Orient—History. | Crusades—13th-15th centuries. | Archaeology, Medieval—Latin Orient.
Classification: LCC D178 E97 2023 (print) | LCC D178 (ebook) | DDC 956.9/014—dc23/eng/20221104
LC record available at https://lccn.loc.gov/2022053164
LC ebook record available at https://lccn.loc.gov/2022053165

ISBN: 978-0-367-70559-6 (hbk)
ISBN: 978-0-367-70560-2 (pbk)
ISBN: 978-1-003-14692-6 (ebk)

DOI: 10.4324/9781003146926

Typeset in Times New Roman
by Apex CoVantage, LLC

Contents

List of figures vii
List of tables xv
List of abbreviations xvi
List of publications xvii
ADRIAN J. BOAS
Acknowledgments xxvii
List of contributors xxviii

Introduction by the editors 1
RABEI G. KHAMISY, RAFAEL Y. LEWIS AND VARDIT R. SHOTTEN-HALLEL

1 In search of Ibelin Castle: experimenting with non-destructive archaeology 5
BENJAMIN Z. KEDAR

2 The *Blanche Garde* fortress at Tell es-Safi/Gath: an update on recent excavation results 29
AREN M. MAEIR AND JEFFREY R. CHADWICK

3 Keeping the Hydra in its cave: viewshed analysis and the Frankish blockade of Fāṭimid Ascalon (1132–1153) 48
RAFAEL Y. LEWIS AND MICHAL BIRKENFELD

4 Et domus sua cuique est tutissimum refugium: Jean II of Ibelin, *Arsur castle and the Hospitallers* 74
VARDIT R. SHOTTEN-HALLEL, HAGI YOHANAN, MOSHE FISCHER AND OREN TAL

5 The archaeology of the *Pardouns de Acre* 107
DANNY SYON

6 Crusader landscapes: the current state of knowledge and future directions 117
ALEKS PLUSKOWSKI

7 Two recently discovered mural paintings and the development of monumental painting in twelfth-century Jerusalem 132
GIL FISHHOF, AMIT RE’EM, AND DAVID YEGER

8 Franks, locals and merchants: Ceramic production in the Latin East 156
EDNA J. STERN

9 Between *Moneta* and *Sikka*: minters and mints in the Frankish East (1099–1291) 181
ROBERT KOOL

10 For want of a nail: horse and donkey shoes in the Kingdom of Jerusalem 216
JOPPE GOSKER

11 On the significance of small finds: two new mother-of-pearl cross-pendants from ʿAtlit and their wider context 235
SIMON DORSO, YVES GLEIZE AND ÉLISE MERCIER

12 Enlarged-based arrow-loops in the Near East (twelfth–fourteenth century) defence or ostentation? 255
MAXIME GOEPP AND JEAN MESQUI

13 Texts, loopholes and quarrels: an example of perfect agreement among the historical sources, architecture and found objects in Safed Castle from the thirteenth century CE 279
HERVÉ BARBÉ

14 A tombstone from Safed: new evidence for the Templar Castle Chapel (?) 296
‘ABDALLAH MOKARY AND VARDIT R. SHOTTEN-HALLEL

15 Belvoir castle revisited: history and development 310
RABEI G. KHAMISY AND MOSHE BRAM

Index 329

Figures

II.1.1 Western entrance to the church of Ibelin. Photo: Salem ʿAbd es-Salam Husseini. IAA. The Scientific Archive, 1919–1948. Yibna, SRF_194(45/45), photo 27.654 13
II.1.2 Low altitude fisheye photo of the site, taken from the northwest. The Mamluk minaret is at the center. Reproduced with the kind permission of Prof. Philip Reeder, Duquesne University 16
II.1.3 The southern wall underneath the Rectangular Room – partial view 17
II.1.4 Loophole of the southern wall, pointing southward 18
II.1.5 Stretch of the northern wall, cleared 8 July 2020 20
II.1.6a The northern wall, drawn in 2005 by the Bahat team. IAA, The Scientific Archive. Archives. Yavne, Tel. Dan Bahat, G56/2005, Drawing 10 21
II.1.6b The northern wall, 2007. Photo: Prof. Moshe Fischer, Tel Aviv University (reproduced with his kind permission) 22
II.1.6c The northern wall, 1942. Photos: Salem ʿAbd es-Salam Husseini. IAA. The Scientific Archive, 1919–1948. Yibna, SRF_194(45/45), photos 27.658–660. Combined by Naomi Morag 22
II.1.7a Ibelin Castle: aerial photograph (with tentative course of walls superimposed) black – visible, broken line – hypothesized, white – based on magnetic measurements 23
II.1.7b Ibelin Castle: aerial thermal photomosaic 23
II.1.7c Ibelin Castle: aerial magnetic map of the eastern part 24
II.1.8 Aerial magnetic map of the castle and *faubourg* areas 25
II.1.9 Ibelin: probable extent of the castle and the *faubourg* 26
II.1.10 *Ebneh* on Jacotin's map. *Carte topographique de l'Égypte et des plusieurs parties des pays limitrophes, levée pendant l'expédition de l'armée française par M. Jacotin* (Paris, [1818]), feuille 44: Jérusalem et Jaffa (detail) 27
II.2.1 Aerial photo of Area F and surroundings – view to the east (2013). Area F-Upper consists of the 13 open squares on the eastern (upper) terrace. The platform at the upper right is

where the *Blanche Garde* fortress stood, with the wall line and pointed tower of its outer fortifications exposed by the Tell es-Safi/Gath Project 30
II.2.2 Plan of Area F, showing major features uncovered and excavated squares in Area F-Upper (right half) 32
II.2.3 *Blanche Garde* Tower 85502 foundation; view to southeast (2005 season) 33
II.2.4 Foundation Trench 115502 and Tower 85502 foundation; view to east 34
II.2.5 Tower 85502 with upper ashlars exposed in 2012, joining to Fortress Wall 155505 foundation (photo center). Foundation Trench 115502 (center left) is also clearly visible (view southeast, 2012) 35
II.2.6 Plan of Stratum F4 Crusader Tower 85502 and Fortress Wall 155505 (2012). [Note: In this figure Fortress Wall 155505 is designated by a preliminary number F15X05.] 35
II.2.7 Tower 85502, west end, the pointed tip of the field stone footing of the tower foundation structure (view east, 2008) 37
II.2.8 Crusader Fortress Wall 155505 foundation (view southwest), with interior field stone fill and the shelf where finished ashlars are now missing. The curving ashlars of Tower 85502 are seen center-right 39
II.2.9 Reconstruction of lines of Crusader Fortress Wall 155505 and Tower 85502 (extant excavated remains shaded) and presumed wall line running southeast (2012) 39
II.2.10 Aerial view of Area F-Upper. Crusader Fortress Wall 155505 and Tower 85502 (upper left and upper center-left). Terrace Wall 85420 (lower center-left) is seen running parallel to the fortress wall (view south-southeast, 2012) 40
II.2.11 Stratum F4 Sloped Moat 75203 in eastern section of Squares18B and 18D (above: with locus numbers, slope marked by dotted line; below: without mark-up) 41
II.2.12 Stratum F4 Crusader period Terrace Wall 85420, also showing collapse zones. The G – H line marks the section of the schematic view of structures and the *glaçis* or sloped moat (75203) in Figure II.2.13. The J – K line marks the position of the slope in the section photograph of Figure II.2.11 42
II.2.13 Schematic section (the G – H line in Figure II.2.12) of Stratum F4 Crusader-period fortifications in Area F-Upper; view to northeast 42
II.2.14 Stone Collapse 75215 in Square 18B (right side of photo), on the north side of Wall 75204 (view west, 2004) 45
II.2.15 Collapse 155103 (lower center), which tumbled down the sloped moat from Fortress Wall 155505 (upper center).

Terrace Wall 85420 is behind the foreground baulk, and Tower 85502 is at upper right (view south, 2013) 45
II.2.16 Adrian Boas standing in front of the Crusader tower during a visit to the Tell es-Safi/Gath excavations in 2012 47
II.3.1 Location of main fortresses, settlements and ancient road systems 50
II.3.2 An oblique aerial view of Ascalon from the south-east 52
II.3.3 Aerial westwards view of Summil 58
II.3.4 An oblique north-east aerial view of Summil fortress 59
II.3.5 The northern fortification wall of Summil fortress, seen from the north-west; note the moat and the glacis 60
II.3.6 Cumulative viewshed analysis of all strongholds noted, in relation to topography and the ancient road system 63
II.3.7 Viewshed analysis of the three land gates of Ascalon, with a close-up of Gadres 64
II.3.8 Viewshed analysis of Bethgibelin with a close-up of Summil 65
II.3.9 Viewshed analysis of Ibelin with a close-up of Ascalon, Blanche Garde and Summil 66
II.3.10 Viewshed analysis of Blanche Garde with a close-up of Summil and Ascalon 67
II.3.11 Viewshed analysis of Gadres to Ascalon, both Ascalon's Gaza Gate and Jerusalem Gate are viewed from Gadres 68
II.3.12 Viewshed analysis of Summil with a close-up of Blanche Garde (map by Michal Birkenfeld IAA and BGU) 69
II.4.1 Arsur: the castle 78
II.4.2 Arsur: the castle: inner plan 80
II.4.3 Arsur: the castle: western façade, central hall: two superimposed floors 81
II.4.4 Arsur: the castle: western façade, central hall: a threshold uncovered in the south-western corner of the hall 82
II.4.5 Arsur: the castle: western façade, northern hall: stable, view to north 83
II.4.6 Arsur: the castle: main entry, looking north-west. A paved passage, flagstones set between two marble columns, reworked to serve as a threshold and a step 89
II.4.7 Arsur: the castle: western façade, central hall: excavation of the area below the castle chapel revealed a monumental entrance leading from the southern range of the castle on the face of the cliff 90
II.4.8 IAA Scientific Record Files (SRF) 9. Arsur castle, view to north-east 91
II.4.9a Arsur: the castle: western façade, central hall: view of a wall from the Ibelin phase of Arsur showing pointing method and the plaster lace over the joints, looking south 92
II.4.9b Arsur: the castle: western façade, central hall: a stone block preserving much of the plaster lace around it in secondary use in a modern building 93

II.4.10a Arsur: the castle: inner wall of the main entry northern gate tower, looking north 95
II.4.10b Arsur: the castle: inner wall of the main entry northern gate tower, looking north-west 96
II.4.11a Arsur: the castle: inner southern fortification wall, looking north-east: blocking of the southern gallery entrance to the castle, view to the north-east (above) 98
II.4.11b Arsur: the castle: inner southern fortification wall, looking north-east: blocking of the southern gallery entrance to the castle, view to the south (below) 99
II.4.12 Arsur: the castle: main entry to the castle, southern gate tower: the Hospitaller reinforcement of the Ibelin towers with larger blocks of stone, view to the west 100
II.4.13 Arsur: the castle: vaulted passage under chapel, the modified threshold adjusted to the new steps 101
II.4.14a Arsur: the castle western façade, central hall: narrowing the opening to the northern hall, looking north 102
II.4.14b Arsur: the castle western façade, central hall: narrowing the opening to the southern hall, looking south 102
II.4.15 Arsur: the castle western façade, central hall: plaster floor over flagstones from the Ibelin phase and below ashlars from the destruction of the castle, looking west 103
II.4.16a Arsur: the castle western façade, central hall: passage to the southern hall; Hospitaller phase 104
II.4.16b Arsur: the castle western façade, central hall: passage to the southern hall; Hospitaller phase; detail 105
II.4.17 Arsur: the castle western façade, central hall: passage to the southern hall; east side of the passage (left), work of the Hospitaller phase, west side of the passage, a wall from the Ibelin phase (upper, right). For a detail of the Ibelin phase joints, see Figures II.4.9a, II.4.9b 105
II.5.1 Location of the Knights' Hotel site in relation to present-day Old City of 'Akko and Hospitaller Compound. Modified after Stern (see n. 17) 109
II.5.2 Selected finds from the flask workshop. Photo by author 110
II.5.3 Three figurine moulds. Photos Clara Amit, IAA (No. 1); Marianna Salzberger, IAA (No. 2); author 111
II.5.4 The column as found and the footprint. Photo by author 112
II.7.1 Ground plan, Church of Saint Nicholas, Jerusalem 134
II.7.2 Mural in southern apse, Church of Saint Nicholas, Jerusalem (Photo: Amit Re'em) 135
II.7.3 Saint Nicholas saves three innocent men from execution, mural in southern apse, Church of Saint Nicholas, Jerusalem (Photo: Amit Re'em) 136

II.7.4 Saint Nicholas saves three innocent men from execution, mural, Church of Saint Demetrius, Markov Monastery, northern Macedonia, fourteenth century 137
II.7.5 The three imprisoned generals, mural in southern apse, Church of Saint Nicholas, Jerusalem (Photo: Amit Re’em) 138
II.7.6 The three imprisoned generals, icon with scenes of the life of Saint Nicholas, 83 x 57 cm, Monastery of St. Catherine, Mount Sinai, late twelfth century. Published courtesy of the Michigan-Princeton-Alexandria Expeditions to the Monastery of St. Catherine on Mount Sinai 140
II.7.7 Saint Nicholas ordained as a bishop, mural in southern apse, Church of Saint Nicholas, Jerusalem (Photo: Amit Re’em) 141
II.7.8 Saint Nicholas celebrating Mass, mural in southern apse, Church of Saint Nicholas, Jerusalem (Photo: Amit Re’em) 142
II.7.9 Angel, Church of St. Anne (Dair as-Saidnaiya), Jerusalem (Photo: Amit Re’em) 148
II.7.10 Angel (detail of head), Church of St. Anne (Dair as-Saidnaiya), Jerusalem (Photo: Amit Re’em) 149
II.7.11 Fragment of head of an angel, possibly from a scene of Christ in Majesty, Crusader Church of the Agony at Gethsemane, Jerusalem, mid- or third quarter of the twelfth century 151
II.7.12 Angel, mosaic at clerestory level, nave, Church of the Nativity, Bethlehem 152
II.8.1 Map of the Latin East with pottery production sites mentioned in the text (By Anastasia Shapiro) 159
II.8.2 Paphos Lemba Ware found in Acre (1–4). Tripod stilts and reconstruction of use (5, 6). Photos by Clara Amit (1–3) and Howard Smithline (4). Drawings by Sapir Haad 163
II.8.3 Port St. Symeon Ware found in Acre (1–4). Kiln bars (5) and reconstruction of use (6). Photo by Howard Smithline (1–3), Danny Syon (4) and Yona Waksman (5). Drawing by Sapir Haad 165
II.8.4 Beirut Ware found in Acre. Photo by Howard Smithline 167
II.8.5 Acre Ware found in Acre. Photo by Howard Smithline 168
II.8.6 Acre Ware jug in Eastern style (1), a small table amphora (2), Cypriot handmade cooking pot (3), Levantine HMGP (4). Photos by Yona Waksman (1), Howard Smithline (2, 3) Clara Amit (4) 169
II.8.7 An assortment of sherds from the excavations in Acre, including imports. Photo by Daphna Stern 176
II.9.1 Gold dinar of the Fatimid caliph al-Āmir, minted in Sūr/Tyre, 516AH/1122. (Photos: Clara Amit, IAA) 185
II.9.2 Dedicatory inscription of the ‘mint tower’ in Tripoli, 1266–1268. (Photo: Jean-Vincent Claverie) 188

II.9.3 Silver gros minted in Tripoli by Bohemund VI, 1266–1275. Kh. Shatta hoard, northern Israel (Photo: Clara Amit, IAA) 189

II.9.4 Gold dinar of the Fatimid caliph al-Amir, minted in Alexandria 499AH/1105–1106. Harvard-Leon Levy excavations, Ascalon (Photos: Clara Amit, IAA) 190

II.9.5 Frankish bezant (1140–1187), Omrit excavations (2006), south of Baniyas, (Photo: Clara Amit, IAA) 191

II.9.6 Christian imitation bezant, "struck in 'Akka", 1251 (Photo: Clara Amit, IAA) 193

II.9.7 Frankish 'cut gold' fragment, found in maritime survey of shipwreck (1998), Carmel coast (Photo: Clara Amit, IAA) 193

II.9.8 'Moneta Regis' denier from a hoard found northwest of the Lake of Tiberias (Photo: Clara Amit, IAA) 194

II.9.9 Holy Sepulcher denier of Amaury I, excavated at the medieval 'Tower of David' citadel, Old City of Jerusalem, in 1935 (Photo: Clara Amit, IAA) 195

II.9.10 'The moneyers capital', Cluniac Priory of Souvigny, eleventh–twelfth century (Photo: Lucien Martinot) 199

II.9.11 Byzantine imperial mint in the Boukoleon palace, Constantinople, late tenth–twelfth centuries (adaptation by author) [after Gerard Brett, Guenter Martiny, and Robert B.K. Stevenson, *The Great Palace of the Byzantine emperors* (London, 1947)] 203

II.9.12 Fatimid mint in the palace-city at al-Qahirah, Egypt, eleventh–twelfth centuries (adaptation by author) 205

II.9.13 Location of the 'Latin' and 'Syrian' money exchangers in Jerusalem (adaptation by author) [with permission of Denys Pringle 23/02/21] 212

II.10.1 Horseshoe terminology. By author 217

II.10.2 The difference between the donkey and horse hoof. By author 219

II.10.3 Types of horseshoe nails. By author 221

II.10.4 Disk-shaped Ottoman donkey shoe. Photo: Zach Horowitz 226

II.10.5 Crusader-period donkey shoe from Montfort. Photo: author 227

II.10.6 Mamluk horseshoe from the al-Waṭṭa Quarter, Safad. Photo: Howard Smithline 229

II.10.7 Crusader-period horseshoes; left: wavy-edged horseshoe from Bet Zeneta, middle: straight-edged horseshoe with calkins from 'Atlit Right, right: straight-edged horseshoe with wide web from 'Atlit. Photos: Klara Amit (left and right), Mariana Salzberger (middle) 229

II.10.8 Shoulder heights of horses, based on the width of the horseshoe 232

II.10.9 Shoulder heights of modern-day donkeys, based on the width of their hooves 233

II.11.1 Aerial views and plan of ʿAtlit castle, town (A) and outer cemetery (B) 237

II.11.2 View of burial S1SP24 during the excavations 239
II.11.3 Drawing of burial S1SP24 showing the location of the cross-pendant (star) 240
II.11.4 Mother-of-pearl cross-pendants from the Kingdom of Jerusalem 243
II.11.5 Mother-of-pearl cross-pendants found outside the Levant 244
II.11.6 A selection of artefacts created in hard material of animal origin from squares P8 and Q8 (ʻAtlit Town, Johns Excavations) 246
II.12.1 Map of the fortifications presenting enlarged-based arrow-loops in the Middle East 257
II.12.2 Models of arrow-loops embrasures (all theoretical) 258
II.12.3 Synoptic view of different enlarged bases 260
II.12.4 Comparison of different oar-shaped arrow-loops in the Middle East and in France 261
II.12.5 Hypertrophic fishtail bases at Domfront (F) and Keniworth (GB) 264
II.12.6 Arrow-loops for the show. Synoptic view of different cases 265
II.12.7 Kenilworth (GB). Interior of an embrasure in the Great Tower, with an hypertrophic square hole, behind the also hypertrophic fishtail base (see Figure 12.5) 276
II.12.8 Cluny (F). Round Tower of the abbatial fortified enclosure. Two embrasures with oar-shaped slits, usable as latrines as well by addition of a pierced seat supported by two lateral mouldings (on the left, embrasure without stone, on the right embrasure with pierced stone) 277
II.13.1 Remains in the south-west sector of Safed castle discovered between 2002 and 2004 282
II.13.2 Loophole III in the western inner curtain wall (looking west, photo Tsila Sagiv, IAA) 283
II.13.3 Plan and section of loophole III 284
II.13.4 Remains of the loophole in wall W111 of the salient preserved behind the northern wall of the Mamluk gate (looking north, photo Tsila Sagiv) 285
II.13.5 Elevation and section of the loophole in the salient wall (W111) 285
II.13.6 Architectural restauration of the Safed castle loopholes in the inner curtain wall (W111, W200) 286
II.13.7 Isometric restoration of Safed castle loopholes 287
II.13.8 Typological classification of projectile points from Safed 291
II.14.1 Location map, Safed castle and location of the Ottoman cemetery 299
II.14.2 Ottoman cemetery and the location of the tombstone 300
II.14.3 Laser scan of the inscription 301
II.14.4 Rib vault fragment, components 302
II.14.5 Diagram of the various types of rib-vault templates, mostly from the Latin Kingdom of Jerusalem 306
II.15.1 Map with the location of Belvoir (drawing by Svetlana Matskevich) 311

II.15.2 Suggested plan of the first phase of Belvoir, built between 1168 and 1172 (drawing by Svetlana Matskevic. After M. Ben-Dov 1975) 319
II.15.3 Suggested plan of the second phase of Belvoir, built until 1187 (drawing by Svetlana Matskevich. After M. Ben-Dov 1975) 322
II.15.4 The seam between the western side of gate no. 2a and the south-eastern projecting tower 323
II.15.5 Single-wing door; top view. Locking bar in clamped position assisted by metal wedges 325
II.15.6 A defended postern by the talus on the north side of the projecting south-western tower 326

Tables

II.3.1 Viewshed analysis perspective in relation to the estimated maximum height of each stronghold 63
II.3.2 Metrics of viewshed analysis: 1 visible; 0 not visible 64
II.12.1 Table of the fortifications presenting enlarged-based arrow-loops in the Middle East (© Maxime Goepp). ▲: Perfect triangular bases. △: Approximated triangular bases. ⌒: Semi-circular bases. ⋂: Oar-shaped bases. ▯: Rectangular-shaped (spade) bases. ◢: Steep plunging sill. ⊿: Small plunging base. □: High sill (arm-rest). ?: Unknown 256
II.13.1 Safed. The castle: typological classification of iron projectile points 288
II.13.2 Safed: Jerusalem Street: typological classification of iron projectile points 290
II.13.3 Safed: al-Waṭṭa quarter: typological classification of iron projectile points 290

Abbreviations

AMSL–Above Mean Sea Level
SWP– Survey of Western Palestine

List of publications

Adrian J. Boas

Ph.D. dissertation

Domestic Architecture in the Frankish Kingdom of Jerusalem, Hebrew University of Jerusalem (1996), Supervisors: Benjamin Z. Kedar and Yoram Tsafrir.

1989–1990

"Bet Shean, Crusader Fortress – Area Z" *Excavations and Surveys in Israel* 9, p. 129.

"Bet Shean, Crusader Fortress – Area Z" *Hadashot Arkeologiot* 95, p. 38 (Hebrew).

1992

"Islamic and Crusader Pottery from Area TP4", in *Caesarea Papers*, eds. K. Holum and A. Raban, *Journal of Roman Archaeology*, Supplement VI, pp. 154–166.

1994

"The Import of Western Ceramics into the Latin Kingdom of Jerusalem", *Israel Exploration Journal* 44, pp. 102–122.

1996

"The Pottery" (a note on Islamic and Crusader Pottery from Tel Sasa) in the 1980 Excavations of Tel Sasa" by Amir Golani and Ora Yogev, *Atiqot* 28, pp. 55–56.

"A Recently Discovered Frankish Village at Ramot Allon, Jerusalem", in *Autour de la Premiere Croisade. Proceedings of the Fourth Conference of the Society of the Society for the Study of the Crusades and the Latin East*, ed. M. Balard, Paris, pp. 583–594.

"Survey of Crusader Structures in Caesarea (123/92)" *Hadashot Arkeologiot* 105, pp. 3–72 (Hebrew).

1997

“A Rediscovered Market Street in Frankish Acre”, *Atiqot* 31, pp. 181–186.

with S. Marco, A. Agnon, R. Ellenblum, A. Eidelman and U. Basson, “817 Year Old Walls Offset Sinestrally 2.1 m by the Dead Sea Transform, Israel” *Journal of Geodynamics* 24, nos. 1–4, pp. 11–20.

“Survey of Crusader Buildings”, Hadashot Arkeologiot 107, p. 137–138 (Hebrew),

with A. M. Maeir, “Tel Zafit – 1997”, *Excavations and Surveys in Israel* 110, 1999, p. 68.

“Hamat Gader. Late Ceramic Typology”, in *The Roman Baths of Hamat Gader*, ed. Y. Hirschfeld (Israel Exploration Society), pp. 382–395.

1998

With R. Ellenblum, S. Marco, A. Agnon and T. Rockwell, “Crusader Castle Torn Apart by Earthquakes at Dawn, 20 May 1202” *Geology* 26, pp. 303–306.

“The Frankish Period – A Unique Medieval Society Emerges”, (Archaeological Sources for the History of Palestine) *Near Eastern Archaeology* 2, pp. 138–173.

With A.M. Maeir, “Archaeology in Israel: Tell e-Safi”, *American Journal of Archaeology* 102, pp. 785–786.

“Survey of Crusader Structures in Caesarea” *Excavations and Surveys in Israel* 17, pp. 77–79.

With A. Maeir and T. Schneider, “Tel Zafit Survey in 1996”, *Hadashot Arkeologiot* 108, p. 15 (Hebrew).

With A.M. Maeir, “The Renewed excavations at Tell e-Safi/Gath”, in *The Judean Shephelah: Man, Nature and Landscape. Proceedings of the Eighteenth Annual Conference of the Martin (Szusz) Department of Land of Israel Studies*, ed. O. Ackermann, pp. 33–39. Ramat Gan: Bar Ilan University (Hebrew).

1999

With A. M. Maeir, “Tel Zafit – 1997”, Hadashot Arkheologiyot 110, pp. 88 (Hebrew).

Crusader Archaeology: The Material Culture of the Latin East, Routledge, London/New York.

“The Pottery [Azor]” *Atiqot* 38, pp. 43–44.

With A. Maeir and T. Schneider, “Tel Zafit”, *Excavations and Surveys in Israel*, vol. 20, pp. 114–115 (Hebrew).

With R. Ellenblum, “Mezad Ateret”, *Hadashot Arkheologiyot*, 109, pp. 6–8 (Hebrew).

With R. Ellenblum, “Mezad Ateret”, *Excavations and Surveys in Israel*, 109, 1999, pp. 5–6.

“Medieval and Post-Medieval Finds”, chapter 7 in *Ramat Hanadiv Excavations*, ed. Y. Hirschfeld (Israel Exploration Society), pp. 211–225.

“Pottery and Small Finds from the Late Ottoman Village and the Early Zionist Settlement”, chapter 7 in *Ramat Hanadiv Excavations*, ed. Y. Hirschfeld (Israel Exploration Society), pp. 547–580.

“Heraldry in the Frankish East”, in *Knights of the Holy Land, Catalogue for Crusader Exhibition at the Israel Museum*, ed. Silvia Rozenberg, Jerusalem, pp. 132–135.

“Life in the Latin Kingdom of Jerusalem: The Archaeological Evidence” in *Knights of the Holy Land, Catalogue for Crusader Exhibition at the Israel Museum*, ed. Silvia Rosenberg, Jerusalem 1999, pp. 240–249.

“Survey of Frankish Buildings”, *Excavations and Surveys in Israel* 17, pp. 77–79.

2000

“La vita quotidiana nel Regno Franco di Gerusalemme”, in *Terra Santa Dalla Crociata allá Custodia dei Luoghi Santi*, Milan, pp. 229–230.

“The Crusader Period. New Studies in the Crusader Period”, *Qadmoniot* 1, (1999), pp. 2–4 (Hebrew).

2001

Jerusalem in the Time of the Crusades: Society, Landscape and Art in the Holy City Under Frankish Rule, Routledge, London/New York.

“Late Pottery from Tower 11, Qa’alat Nimrod”, IAA Reports 11, pp. 125–129.

“Some Reflections on Urban Landscapes in the Latin Kingdom of Jerusalem: Archaeological Research in Jerusalem and Acre”, in *Dei gesta per Francos. Crusade Studies in Honour of Jean Richard*, ed. Michel Balard, Benjamin Z. Kedar and Jonathan Riley-Smith, Ashgate, pp. 241–260.

2002

With R. Kletter, “Har Hozevim: A Frankish Farmhouse North of Jerusalem”, *Atiqot* 43, pp. 186–205.

2003

“Street Villages and Rural Estate Centres: The Organization of Rural Settlement in the Latin Kingdom of Jerusalem”, in *The Rural Landscape of Ancient Israel*, eds. A.M. Maeir, S. Dar, Z. Safrai, BAR International Series 1121, Oxford, pp. 137–148.

2004

With C. Horev, “Caratteri tipologici delle fortificazioni crociate in territorio israeliano”, in *Firenze Architettura, publication for the Convegno Internazionale – Castelli medievali a Petra e nel vicino oriente tra rilievo e archeologia*, Firenze, Palazzo Vecchio, 6–7 febbraio, 2004, pp. 20–21.

2005

“Medieval Pottery from ‘En Gedi”, *Atiqot* 49, pp. 39–41.
“Jérusalem au temps des croisades”, *Histoire Medievales* 2, pp. 48–56.
“Latrun” *Crusades* 4, Reports on Recent Excavations, p. 159–160.
With Georg Philipp Melloni, “Akko (East)”, *Hadashot Arkheologiyot/Excavations and Surveys in Israel* 117 (online).

2006

Archaeology of the Military Orders: A Survey of the Urban Centres, Rural Settlements and Castles of the Military Orders in the Latin East (c. 1120–1291), Routledge, London/New York.
“L’Arcitecture civile Franque á Césarée, Acre et Jérusalem”, *Bulletin Monumental* 164–1, pp. 31–44.
“The Medieval Ceramics from Khirbat Ka‘kul”, *Atiqot* 54, pp. 75–104.
“The Rugged Beauty of Crusader Castles: Holy Wars in a Holy Land”, *Biblical Archaeologist Review* 32, pp. 50–71.
“Note on Some Medieval Period Ceramics Found in Area P”, in *Excavations at Tel Beth – Shean 1989–1996*, Vol. I, *From the Late Bronze Age IIB to the Medieval Period*, ed. A. Mazar, Jerusalem.

2007

“Three Stages in the Evolution of Rural Settlement in the Kingdom of Jerusalem during the Twelfth Century”, in *Laudem Hierosolymitani – Crusades subsidia* 1, pp. 77–92.

2008

With R. Khamisy, “The Teutonic Castle of Montfort/Starkenberg (Qal’at Qurein)” in *L’Ordine Teutonico tra Mediterraneo e Baltico, Acta Theutonica 5*, ed. H. Houben, Galatina, 2008, pp. 347–61.
“The Montfort Castle. A New Survey”, *Excavations and Surveys in Israel Hadashot Arkheologiyot/Excavations and Surveys in Israel*, 120 (online).
With M. Piana, “Die Kreuzfahrerstadt Ascalon”, in *Burgen und Städte der Kreuzzugszeit*, ed. Mathias Piana, Petersberg, 2008, pp. 263–273.
“Das Jerusalem der Kreuzfahrer”, in *Burgen und Städte der Kreuzzugszeit*, ed. Mathias Piana, Petersberg, 2008, pp. 315–325.

2009

With A. M. Maeir, “Blanchegarde Castle (Tell as-Safi): A Case Study of the Effects of Castle Building on Medieval and Modern Settlement Patterns in the Southern Levant” *Crusades* 8, pp. 1–22.

“Safed”, in *Prier et combattre: dictionnaire européen des ordres militaires au Moyen Âge*, eds. Philippe Josserand, Nicole Bériou, Paris, pp. 813–814.

“Beaufort”, in *Prier et combattre: dictionnaire européen des ordres militaires au Moyen Âge*, eds. Philippe Josserand, Nicole Bériou, Paris, pp. 148–149.

“Belvoir”, in *Prier et combattre: dictionnaire européen des ordres militaires au Moyen Âge*, eds. Philippe Josserand, Nicole Bériou, Paris, pp. 152–153.

“Toron des Chevaliers”, in *Prier et combattre: dictionnaire européen des ordres militaires au Moyen Âge*, eds. Philippe Josserand, Nicole Bériou, Paris, pp. 918–919.

“Césarée”, in *Prier et combattre: dictionnaire européen des ordres militaires au Moyen Âge*, eds. Philippe Josserand, Nicole Bériou, Paris, pp. 204–205.

“Alimentation”, in *Prier et combattre: dictionnaire européen des ordres militaires au Moyen Âge*, eds. Philippe Josserand, Nicole Bériou, Paris, pp. 69–70.

“Mocna Góra Krzyżaków”, *Archeologia* 1(41), pp. 30–32.

Montfort Castle Project self-published public relations booklet, Jerusalem.

“Israel and the Teutonic Heritage in the Holy Land” Teutonic Conference volume, Malbourk.

2010

Review article of Denys Pringle, The Churches of the Crusader Kingdom of Jerusalem. A Corpus, volume IV, The Cities of Acre and Tyre with Addenda and Corrigenda to Volumes I–III, Cambridge, UK (Cambridge University Press, 2009) Crusades. pp. 218–221.

Domestic Settings: Archaeology, Documents and Literary Sources on Domestic Architecture and Day-to-Day Activities in the Crusader States, 1099–1571, Brill, Leiden/Boston.

“Archaeology: The Levant”, *Oxford Dictionary of the Middle Ages*.

“Crusader Castles” in *Medieval Warfare and Military Technology: An Encyclopaedia*, Oxford University Press.

“Fortified Churches” in *Medieval Warfare and Military Technology: An Encyclopedia*, Oxford University Press.

“Daily Life in Frankish Acre”, in *One Thousand Nights and Days – Akko through the Ages*, eds. Ann E. Killebrew and Vered Raz-Romeo, Haifa, Hecht Museum, pp. 48–54.

مدينة بيت المقدس: زمن الحروب الصليبية – authorised Arabic translation of Jerusalem in the Time of the Crusades, National Centre for Translation and Publishing, El Gazira, Cairo.

2011

“Frankish Jaffa”, in *The History and Archaeology of Jaffa*, eds. M. Peilstöcker and A.A. Burke, University of California, Los Angeles, pp. 121–126.

“Montfort Castle – 2011”, *Hadashot BeAtiqot* (online) (Hebrew).

“National Park Montfort. Excavations Summer 2011”, *Al HaDerech*, p. 10 (Hebrew).

2012

"Montfort Castle – 2011", *Hadashot Arkheologiyot/Excavations and Surveys in Israel* 117 (online).

Review article of David Nicolle, *Knights of Jerusalem: The Crusading Order of Hospitallers 1100–1565* (Osprey Publishing, 2008), Biblical Archaeology Review.

Montfort Castle. The Western Wing and the Great Hall, Zinman Institute of Archaeology, Haifa.

With A. Pluskowski and C. Gerrard, "The Ecology of Crusading: Investigating the Environmental Impact of Holy War and Colonisation at the Frontiers of Medieval Europe" *Medieval Archaeology* (authors of equal contribution), pp. 192–225.

"Tel es-Safi in the Medieval and Modern Periods" in *Tell es-Safi/Gath I: Report on the 1996–2005 Seasons*, ed. A.M. Maeir. Ägypten und Altes Testament 69. Wiesbaden: Harrassowitz, pp. 153–164.

"The Montfort Castle Project: A Programme of Research, Conservation and Development at the Teutonic Castle in the Western Galilee", in C.M.R. Luschi, L. Aiello, Mons Fortis alias Mons Feret. Il castello dei Teutonici in Terrasanta, Firenze, pp. 87–91.

"Some Preliminary Findings at the Teutonic Castle of Montfort" Christ is Here! Studies in Biblical and Christian Archaeology in Memory of Michele Piccirrillo ofm, ed. L. Daniel Chrupcala, Milano, pp. 11–27.

"Montfort Castle Project: A New Research and Conservation Project at the Site of the Teutonic Castle in the Western Galilee", in Proceedings of the International Conference La Transjordania nel Secoli XII -XIII e le 'Frontiere' del Mediterraneo Medievale (Florence, Palazzo della Signoria, Palazzo Strozzi, 6–8 November 2008, vol. 1 of the series 'Limina/Limites – Archaeology, History, and Borders the Mediterranean Islands (365–1556)', eds. Guido Vanning and Michele Nucciotti, Biblical Archaeology Review (International Series) S2386, Oxford, pp, 227–30.

"Crusader Archaeology", in *The Oxford Companion to Archaeology*, vol. 1, 2nd edition, ed. Neil Asher Silberman, Oxford, pp. 349–352.

"Montfort Castle – 2012", *Hadashot BeAtiqot* (online) (2 pages) (Hebrew).

"Second Season of Excavations in the National Park Montfort in the Western Galilee – April 2012", *Al HaDerech*, p. 8 (Hebrew).

2013

"Archaeological Evidence for the Two Sieges of Montfort Castle", *Castelos das Ordens Militares* 1, Lisbon, pp. 73–85.

With Fabrizio Benente, "Montfort e i Cavalieri Teutonici", *Archeologia Viva* 158, pp. 48–56.

With Rabei G. Khamisy, "Montfort Castle – 2012", *Hadashot Arkheologiyot/Excavations and Surveys in Israel* 125 (online).

2014

“Montfort Castle in the Light of New Excavations”, in “From Watch Tower to Fortified City”. *Forts and Fortresses in Northern Israel from the Canaanites to the IDF*, Land of Galilee 3, ed. Mordechai Aviam, pp. 145–156 (Hebrew).

“Renewed Research at Montfort Castle”, in *Archaeology and Architecture of the Military Orders*, ed. Mathias Piana, Farnham and Burlington, pp. 175–92.

2016

The Crusader World, Routledge, London/New York.

“Introduction” in *The Crusader World*, Routledge, London/New York, pp. 1–4.

“Domestic life in the Latin East”, in *The Crusader World*, Routledge, London/New York, pp. 544–567.

“The Streets of Frankish Acre”, in *Crusader Landscapes in the Medieval Levant. The Archaeology and History of the Latin East*, ed. Micaela Sinibaldi, Kevin J. Lewis, Balázs Major and Jennifer A. Thompson, Cardiff, pp. 21–38.

2017

Crusader Archaeology: The Material Culture of the Latin East, Routledge, Second Edition, London/New York.

With Rabei G. Khamisy, Montfort. History, Early Research and Recent Studies of the Principal Teutonic Fortress in the Latin East. Leiden and Boston.

“Introduction”, in *Montfort History, Early Research and Recent Studies of the Principal Teutonic Fortress in the Latin East*, eds. Adrian J. Boas and Rabei Khamisy, Leiden/Boston, pp. 1–12.

“Archaeological Evidence for the Mamluk Sieges and Dismantling of Montfort: A Preliminary Discussion”, in *Montfort History, Early Research and Recent Studies of the Principal Teutonic Fortress in the Latin East*, eds. Adrian J. Boas and Rabei Khamisy, Leiden/Boston, pp. 41–55.

“The Survey of Western Palestine Report on Montfort (1877)”, in *Montfort History, Early Research and Recent Studies of the Principal Teutonic Fortress in the Latin East*, eds. Adrian J. Boas and Rabei Khamisy, Leiden/Boston, pp. 73–74.

“The Metropolitan Museum of Art Expedition to Montfort (1926)”, in *Montfort History, Early Research and Recent Studies of the Principal Teutonic Fortress in the Latin East*, eds. Adrian J. Boas and Rabei Khamisy, Leiden/Boston, pp. 75–92.

with Rabei Khamisy, “Initial Thoughts on the Architectural Development of Montfort Castle”, in *Montfort History, Early Research and Recent Studies of the Principal Teutonic Fortress in the Latin East*, eds. Adrian J. Boas and Rabei Khamisy, Leiden/Boston, pp. 95–101.

“Interpretation of Parts”, in *Montfort History, Early Research and Recent Studies of the Principal Teutonic Fortress in the Latin East*, eds. Adrian J. Boas and Rabei Khamisy, Leiden/Boston, pp. 102–119.

“Introduction to the Finds”, in *Montfort History, Early Research and Recent Studies of the Principal Teutonic Fortress in the Latin East*, eds. Adrian J. Boas and Rabei Khamisy, Leiden/Boston, pp. 160–162.

“Ceramic Finds”, in *Montfort History, Early Research and Recent Studies of the Principal Teutonic Fortress in the Latin East*, eds. Adrian J. Boas and Rabei Khamisy, Leiden/Boston, pp. 163–167.

“Stone, Metal, Wood and Worked Bone Finds from the 1926 Expedition”, in *Montfort History, Early Research and Recent Studies of the Principal Teutonic Fortress in the Latin East*, eds. Adrian J. Boas and Rabei Khamisy, Leiden/Boston, pp. 195–220.

“The Montfort Castle Project (MCP): A Summary of the Surveys and the First Six Excavation Seasons (2011–2015)”, in *Montfort History, Early Research and Recent Studies of the Principal Teutonic Fortress in the Latin East*, eds. Adrian J. Boas and Rabei Khamisy, Leiden/Boston, pp. 227–241.

“Two Board Games and Some Graffiti from Montfort”, in *Montfort History, Early Research and Recent Studies of the Principal Teutonic Fortress in the Latin East*, eds. Adrian J. Boas and Rabei Khamisy, Leiden/Boston, pp. 287–288.

“Summary and Conclusions”, in *Montfort History, Early Research and Recent Studies of the Principal Teutonic Fortress in the Latin East*, eds. Adrian J. Boas and Rabei Khamisy, Leiden/Boston, pp. 302–303.

“Evidence for Daily Life in Montfort Castle in the Light of Past and Recent Archaeological Exploration”, in *W służbie zabytków, Malbourk*, pp. 257–270.

2018

“Some Evidence for Poverty in the Latin East”, in *Communicating the Middle Ages. Essays in Honour of Sophia Menache, Crusades Subsidia 11*, eds. Iris Shagrir, Benjamin Z. Kedar and Michel Balard, Abington, pp. 141–156.

“New Evidence for Identifying the Site of the Teutonic Compound in Acre”, in *Acre and Its Falls*, ed. John France, Leiden/Boston, pp. 69–89.

“Return to the Holy City: Historical and Archaeological Sources on the Frankish Presence in Jerusalem between 1229 and 1244”, in *Tell It in Gath. Studies in the History and Archaeology of Israel. Essays in Honor of Aren M. Maeir on the Occasion of his Sixtieth Birthday, Ägypten und altes Testament 90*, eds. Itzhaq Shai, Jeffrey R. Chadwick, Louise Hitchcock, Amit Dagan, Chris McKinny and Joe Uziel, Münster, pp. 1028–1050.

With Meir Edrei, Inbal Somet “Khirbat A-Ram and the Agricultural Possessions of the Holy Sepulcher in Jerusalem”, in *Innovations in the Archaeology of Jerusalem and its Surroundings*, vol. 12, eds. Joseph (Joe) Uziel, Yuval Gadot, Yechiel Zelinger, Orit Peleg-Barkat and Oren Gutfeld, Jerusalem (Hebrew), pp. 240–252.

“Medieval Ceramics”, in *Tel Anafa II, iii*, eds. Andea Berlin and Sharon C. Herbert, Ann Arbor, MI, pp. 359–365.

2019

"The Crusader Period", in *Routledge Handbook on Jerusalem*, eds. Suleiman A. Mourad, Naomi Koltun-Fromm and Bedross Der Matossian, Abingdon/New York, pp. 90–101.

"Life in Montfort in the Light of Archaeological Excavations (1926 and 2011–2014)", Quellen und Studien zur Geschichte des Deutschen Ordens 81, Das Leben im Ordenshaus, pp. 21–27.

2020

La caída de Jerusalén (1187), *Desperata Ferro* 58, pp. 6–11.

2021

With Rabei G. Khamisy, "The Two Sieges and the Conquest of Montfort", in *Crusading and Archaeology. Some Archaeological Approaches to the Crusades, Crusades Subsidia 14*, eds. Vardit R. Shotten-Hallel and Rosie Weetch, London/New York, pp. 22–36.

With Joppe Gosker and Rabei G. Khamisy, "The Projectile Points from the Teutonic Castle of Montfort", in *New Studies in the Archaeology of Northern Israel*, eds. Karen Covello-Paran Adi Erlich and Ron Beeri, Jerusalem, pp. 63–76.

The Sulphur Priest (a novel), Wheatmark, Arizona.

"Acre. Gateway to the Holy Land", in Akkon – Venedig – Marienburg Mobilität und Immobilität im Deutschen Orden, Conference Proceedings, ed. Hubert Houben, Venice 2018, pp. 1–15.

Forthcoming

"Five Military Orders in Thirteenth-Century Acre", Lisbon.

"The Acclimatisation of the Frankish Population to Life in the Latin East: Some Examples from Daily Life", Poitiers.

"Banias – Pan Sanctuary: The Medieval Pottery", in Zvi U. Ma'oz, ed. Paneion I, Excavations at the Sanctuary of Pan in Caesarea Philippi (Banyas) 1988–1993, Jerusalem.

"Archaeological Evidence for Monastic Life in the Latin East", chapter in a monograph on Past Excavations at the Carmelite Monastery in Wadi Siah, IAA Reports.

"Rethinking Montfort. Some Thoughts and Reassessments on the Architectural Evolution of the Castle after a Decade and a Half of Research", in Da Aquisgrana ad Acri. Scavalcare i confininel Medioevo, volume in honour of Hubert Houben.

"Archaeology in the Levant: Settlement and Material Culture", in *Cambridge History of the Crusades*.

"Castles", in *New Oxford Illustrated History of the Crusades*.

Review article of *Bridge of Civilizations. The Near East and Europe c.1100–1300*, eds. Peter Edbury, Denys Pringle and Balázs Major Oxford, 2019, in *Crusades*.

Co-editor of *Routledge Handbook of the Material Culture of the Crusader States*.

Chapters authored in *Routledge Handbook of the Material Culture of the Crusader States*.

Routledge – Frankish Vernacular Architecture, Exchange, Gifts, Plunder and Trade, Preservation of the Frankish Past in Place Names, The Franks' Engagement with Ancient Ruins, and Overall Conclusion.

A Gentle Empire (a novel).

Acknowledgments

The editors would like to thank Christoph T. Maier, Series Editor of Crusades Subsidia, Michael Greenwood and Louis Nicholson-Pallett at Routledge. A special word of thanks goes to the board members – Sophia Menache, Benjamin Z. Kedar, Denys Pringle and Peter Edbury – for their assistance and careful reading of the manuscripts.

Contributors

Hervé Barbé is Honorary Archaeologist with the direction du patrimoine, ministère de la culture et de la communication (France) and a research archaeologist with the Israel Antiquities Authority. He is also an associate researcher at the Centre de Recherche français de Jérusalem (CRFJ). He has published numerous studies on medieval archaeology on Jerusalem, Safed and Galilee.

Moshe Bram is a Ph.D. student at the Department of Maritime Civilizations, University of Haifa. He is a graduate of the Department of Maritime Civilizations, M.A., University of Haifa (2017) and a graduate of mechanical engineering, Bs.C. in the Technion, Haifa (1978). His research deals with the mechanical aspects of the field of maritime archaeology and land archaeology. The articles published deal with the behaviour of wood in the process of ship building (published in *Naval Engineers Journal*, 2018; Skyllis, 2018), as well as research of the archaeometallurgical of metal fasteners in a 180-year-old boat (published in *Metallography, Microstructure, and Analysis*, 2020).

Michal Birkenfeld is a prehistorian, specialising in the Neolithic of the Southern Levant. She completed her Ph.D. at the Hebrew University of Jerusalem in 2018. Since the beginning of her studies, Dr. Birkenfeld has focused on Geographic Information Systems (GIS) and their application in the field of archaeology, developing an expertise in Digital Archaeology. In 2014 she headed the establishment of the GIS Research branch at the Israel Antiquities Authority.

Since 2021, Dr. Birkenfeld is a senior lecturer in the Department of Archaeology, Ben-Gurion University of the Negev, Israel, where she heads the BGU Digital Archaeology Research laboratory [BGU-DARC].

Jeffrey R. Chadwick is Professor of Archaeology and Near Eastern Studies at the Jerusalem Center for Near Eastern Studies of Brigham Young University in Israel, and professor of church history and Jewish studies at Brigham Young University in Utah, USA. He serves as senior field archaeologist at the Tell es-Safi/Gath Archaeological Project in Israel.

Simon Dorso received his Ph.D. from Lyon 2 Lumière University in 2021 and is Associate Researcher at the French Research Centre in Jerusalem. He is currently a Postdoc in the ERC Project HornEast (Aix-Marseille University, IREMAM). As an archaeologist and historian, he is involved in several excavation projects, including Belvoir castle and ʿAtlit cemetery, as well as in other archaeological investigations in Ethiopia.

Moshe Fischer (1945–2021) was a Full Professor of Classical Archaeology at Tel Aviv University. He directed many excavations in Israel, the last was at Yavneh-Yam (1992–2011), the harbour town of inland Yavneh, inhabited from the Middle Bronze Age II through the beginning of the Crusader period. Moshe specialised in Hellenistic, Roman and Byzantine classical eastern Mediterranean archaeology as well as the cultural interactions between the Greek and Roman worlds with the Southern Levant, especially via the use of architectural decorative items of classical orders. His research contributed significantly to our understanding of materials used in the medieval period, and particularly the re-use of classical elements in Frankish buildings.

Gil Fishhof teaches medieval and Crusader art in the Department of Art History, University of Haifa. His main areas of expertise are Romanesque art and architecture in France, art in the Latin Kingdom of Jerusalem, art of the Cluniac order and questions of medieval patronage and audiences. The subjects of his recent publications are the Crusader sculpture of the Church of the Annunciation in Nazareth, the murals of the church of Emmaus (Abu-Ghosh) and the sculpted lintels of the Holy Sepulchre. Together with Einat Segal and Assaf Pinkus he has recently published the edited volume *The Basilica of the Annunciation in Nazareth – Where the Word became Flesh* (De Gruyter, 2020).

Yves Gleize is an Associate Researcher at the French Institute of Preventive Archaeology and at Bordeaux University. His research focuses on funerary practices in marginal areas and intercultural contacts in the Mediterranean region and in Eastern Africa. He is currently participating in a research project at the world heritage site of Lalibela (Ethiopia) and leads the archaeological excavations of the “Crusader” cemetery at ‘Atlit (Israel).

Maxime Goepp is chief engineer of the French State Public Works Department and has been working for the French Ministry of the Environment. In parallel to this career, he has developed a passion for the study of the fortresses of the Mediterranean East. For several years, he has been systematically prospecting the little-known fortified architectural heritage of the Kingdom of Armenia in Cilicia, contributing to an important renewal of knowledge. He has contributed with Jean Mesqui to the most comprehensive book on *Crac des Chevaliers, histoire et architecture* (2018).

Joppe Gosker is a specialist of metal objects from the Kingdom of Jerusalem. He completed his bachelor’s and master’s degrees at the University of Amsterdam and has submitted his Ph.D. dissertation at the University of Haifa. He has written on metal finds from the Roman to Ottoman periods. As an archaeologist in the Israel Antiquities Authorities, he has excavated in Tiberias, Acre, and at other sites, studying remains form multiple periods.

Benjamin Z. Kedar, Professor Emeritus of History at the Hebrew University of Jerusalem, is a student of the Crusades as well as of comparative and world history. He has applied radiocarbon dating to Frankish mortar and used early aerial photographs for the study of the Frankish East as well as of more recent phenomena.

Rabei G. Khamisy is a senior lecturer at the Department of Archaeology in Haifa, and a member of the Zinman Institute of Archaeology. His researches deal with several fields; Frankish period archaeology and history, and Ayyubid/Mamluk documentation. In addition, he is publishing articles dealing with late Ottoman period history and anthropology.

His current field work includes major excavations in Frankish sites, including Montfort castle (funded by the ISF) and Castellum Regis in the village of Mi'ilya. The later is a unique project of excavations, preservation and tourisim, established and managed by Khamisy.

The last publications includes two articles about the 1202 earthquake (Levant 2018 and 2021), an article about Frankish viticulture (PEQ 2020), an article about the Druze community in Daliyat al-Karmil (MES 2021), an article about mangonels (Crusades 2021), an article about the Crusader village of al-Ram (ZDPV 2021) and an article about the Crusader tower of Dor (Levant 2021).

Robert Kool is Head of the Coin Department of the Israel Antiquities Authority. He has published extensively about the Crusader Kingdom of Jerusalem's coins and monetary history, based on hitherto unpublished excavation finds from hundreds of sites. His current research also includes medieval seals and the study of Early Islamic, Fatimid and Mamluk hoards and coin finds. Currently he is working on a new volume dedicated to the medieval coinages of the Crusader States and Cicilian Armenia as part of the 20-volume Medieval European Coinage (MEC) series published at Cambridge University.

Rafael (Rafi) Y. Lewis is a field archaeologist and a researcher specialising in landscape archaeology and archaeology of the Latin Kingdom of Jerusalem. Lewis is a senior lecturer at Ashkelon Academic College and a researcher at the Zinman Institute of the University of Haifa. He directs several projects, such as the Landscapes of the Latin Kingdom of Jerusalem Project and the Shephela Project: Investigating Cupmarks, Box-fields and Chalcolithic Hamlets, and co-directs several projects, including the Mount Zion Excavations Project and the Landscape of Hattin Project. He recently published on Crusader encampments, thirteenth-century sword pommels, and medieval Beth She'arim and Ascalon.

Aren M. Maeir is a professor of archaeology at the Martin (Szusz) Department of Land of Israel Studies and Archaeology at Bar-Ilan University. He directs the Tell es-Safi/Gath Archaeological Project (http://gath.wordpress.com), is head of the Institute of Archaeology at Bar-Ilan University and serves as co-editor of the Israel Exploration Journal.

Élise Mercier is a Ph.D. student at Poitiers University (EA 3811 HeRMA) under the supervision of Yves Gleize and Vincent Michel. Her research focuses on privilege burials and funerary practices in Christian Palestine (seventh–thirteenth centuries). She participates in ʿAtlit cemetery excavations, as well as in other rescue and research excavations in France and Ethiopia.

Jean Mesqui, alongside his career in the roads and highways sector, has developed an activity in the history of art and architecture as well as in archaeology. After presenting his master dissertation entitled *Provins, La fortification d'une ville au Moyen Âge*, he was awarded his Doctor of Letters degree in 1985 for his thesis *Le Pont en France avant le temps des Ingénieurs*. His research work has led to several books about the fortifications in France and the Levant, in particular, recently, *Césarée maritime, ville fortifiée du Proche-Orient* (2014) and *Le Crac des Chevaliers, Histoire et architecture* (2018, in cooperation with Maxime Goepp), and numerous articles in archaeological reviews.

Abdallah Mokary is an archaeologist in the Israel Antiquities Authority (IAA). He received his B.A. and M.A. degrees from the the Zinman Institute of Archaeology – University of Haifa. He has excavated extensively in the northern region of Israel. Mokary's research focuses on settlements in Galilee during the Early Islamic period.

Aleks Pluskowski is Professor of Medieval Archaeology at the University of Reading, UK. His recent research focuses on the environmental archaeology of European frontier societies, particularly those associated with crusading. He directed the 'Ecology of Crusading' project in the eastern Baltic and is currently co-directing the 'Landscapes of (Re)Conquest' project, which focuses on medieval frontiers in Spain and southern France.

Amit Re'em is a senior archeologist in the Israel Antiquities Authority (IAA). Today he is Jerusalem Regional Archeologist on behalf of the IAA. He received his B.A., M.A. and Ph.D. degree from the Institute of Archaeology at the Hebrew University. His field of expertise is Crusader Jerusalem, Crusader burial customs and the archeology of Jerusalem. Dr. Re'em conducted numerous excavations, mainly in the Old City of Jerusalem. Among them are the excavations in the David Citadel, Mount Sion, the Holy Sepulchre, Gethsemane, Lion Gate and many more. In addition, he has published dozens of articles on ancient Jerusalem.

Vardit R. Shotten-Hallel is a Researcher at the Israel Antiquities Authority. Her research focuses on medieval architecture, building archaeology, and construction technology. She is the founder and director of the 'Atlit Castle Research Project and co-editor of *Crusading and Archaeology* (Routledge, 2020) and *Settlement and Crusade in the Thirteenth Century* (Routledge, 2022).

Edna J. Stern is a Senior Research Archaeologist at the Israel Antiquities Authority, a Teaching Associate in the Department of Maritime Civilizations and a Research Associate at the Leon Recanati Institute for Maritime Studies, University of Haifa. She is a ceramic specialist and field archaeologist who excavates in Acre and its region. Her research concerns ceramics of the Crusader, Mamluk and Ottoman periods, especially their production sites and maritime distribution. She also investigates the archaeology of Crusader and Mamluk urban and rural sites, sugar production and foodways.

Danny Syon, Independent scholar. Recently retired from the Israel Antiquities Authority, where he was head of the Scientific Assessment Branch for 14 years. Among his major fields of research: Numismatic specialist, Galilee in the Hellenistic and Roman periods, and Crusader ʻAkko.

Oren Tal is a Full Professor of Classical Archaeology in the Department of Archaeology and Ancient Near Eastern Cultures at Tel Aviv University. He is the current Director of the Apollonia-Arsuf Excavation Project (since 2007) and Co-Director of the Tell Iẓṭabba Excavation Project (since 2019). His research interests concern the material culture of the classical- and medieval-period Near East and its social, political, and economic implications, that is from the mid-first millennium BCE to the early second millennium CE.

David Yeger is an archaeologist in the Israel Antiquities Authority (IAA). He received his B.A. and M.A. degrees from the Institute of Archaeology of the Hebrew University. His field of research is Jerusalem and its hinterland during the Mamluk period. Yeger has conducted numerous excavations inside and around Jerusalem's Old City. Noteworthy are the excavations along the eastern wall of the city and in the Church of Gethsemane.

Hagi Yohanan is a Senior Archaeologist and Central District Archaeologist with the Israel Nature and Parks Authority (INPA), founder of Apollonia National Park and co- director of excavations with Professor Oren Tal. He is currently working on a study of the Islamic and Frankish walls of Arsuf-Arsur.

Crusades Subsidia

Exploring Outremer Volume I
Studies in Medieval History in Honour of Adrian J. Boas

Exploring Outremer Volume II

Studies in Crusader Archaeology in Honour of Adrian J. Boas

Taylor & Francis
Taylor & Francis Group
http://taylorandfrancis.com

Introduction by the editors

Rabei G. Khamisy, Rafael Y. Lewis and Vardit R. Shotten-Hallel

> *VERBA SAPIENTIUM AUDIUNTUR IN SILENTIO*
> *The words of the wise are heard in peace and quiet.*[1]

Many of us who have come to know Professor Adrian J. Boas in the past decades admire both his way of work, which has always been of outstanding quality, and his kindness and pleasant approach. A true scholar and archaeologist, who has contributed widely and extensively to both the study and teaching of the Middle Ages. Adrian J. Boas sets an example of dedication and a multidisciplinary approach to the study of the Crusader period archaeology and the history of the Franks in the Latin Kingdom of Jerusalem.

Reflecting on Adrian's academic career, it is clear that he embodies a 'multidisciplinary approach' in both his private life and in academia. In 1969, at the age of 16, Adrian arrived in Israel. Having left Melbourne, Australia, before graduation, he did not have the opportunity to complete high school. After three years of military service Adrian lived for two years in London, studying art, and subsequently spent a year in Rome, before returning to Israel in 1978 to marry Yochi. Their three sons mark different stages in Adrian's unusual academic career: Yoni was born in 1980 before Adrian began his B.A. studies; Amir, in 1984, the year in which Adrian started his path in academia; and Daniel, in 1994, during Adrian's Ph.D. studies.

In 1984, at the age of 32 and following a brief career employed as a graphic artist, Adrian was able to fulfil his long-held desire to begin academic studies at the Hebrew University of Jerusalem's Department of General History, his initial interest being modern European history. He chose archaeology as his second field of study, attracted to it as a tangible form of historical study. To quote Adrian:

> I have always accepted that archaeology is a discipline in its own right, due to its varied and complex methodology, but equally I see it as one so closely

---

[1] Verba sapientium audiuntur in silentio, plus quam clamor principis inter stultos. *Ecclesiastes* 9:17.

DOI: 10.4324/9781003146926-1

> bound to historical study and with precisely the same aim as the study of written sources – to expose the human past – that I have never felt entirely comfortable with the label "archaeologist".

In the early years of his career, Adrian's experience as a graphic designer facilitated him in financing his way in academic studies, now through the drawing of field plans and sections, ceramics and other finds from numerous archaeological excavations. He also found employment in the Israel Antiquities Authority, which enabled him to participate in a number of archaeological excavations and surveys and to observe at close hand the lab work involved in archaeological study. From the onset of his studies, an interest in medieval history, and in particular in the Crusader period, evolved, its origins going back to childhood reading but now vastly enhanced by attending the fascinating lectures of a great Crusader historian, Professor Joshua Prawer, a founding force in Crusader studies and in the history of the Latin Kingdom of Jerusalem and also a scholar with a great interest in archaeological sites. It was largely Prawer's remarkable ability to breathe life into the period, his wealth of knowledge, humour and captivating anecdotes, that led Adrian to choose the Crusader period for his future studies. Aware of the need for an archaeologist specialising in the Crusader period, on the advice of Prawer, Adrian began his master's degree as a student of renown historian Professor Benjamin Z. Kedar and an expert in archaeometry (the scientific study of the provenience of ceramics), Professor Joseph Yellin. Material culture, and particularly pottery, was how Adrian chose to hold history in his own hands. The choice of pottery came with the understanding that to be able to effectively carry out archaeological research at Crusader-period sites, a strong knowledge of contemporary ceramics was essential. At the time there were no Israeli archaeologists specialising in Crusader archaeology, and no formal courses on Crusader archaeology in Israeli academic institutes. Fortunately, British scholar Professor Denys Pringle had been extensively publishing finds from several important sites in Israel; a close colleague, Ronnie Ellenblum, was active in fieldwork; and a small but growing number of important Crusader-period sites were going under the spade (including the cities of Acre, Caesarea, sites in and around Jerusalem, Bethgibelin and Vadim Iacob).

Adrian's M.A. studies included a Neutron Activation Analysis of Crusader-period imported ceramics, the first study of its type carried out on medieval ceramics. After completion in 1991 he sought a new, but no less important, direction for his Ph.D. studies. The choice fell on another entirely neglected field – Frankish domestic architecture, which he carried out once again under the exceptional supervision of Professor Kedar as well as the classical archaeologist Professor Yoram Tsafrir. On the advice of Professor Kedar, the study would follow a project commenced by the late Professor Robert S. Lopez, who had gathered a body of textual material relating to medieval domestic architecture. This study was completed in 1997 and expanded upon when Adrian was a post-doctoral researcher, as a Lady Davis scholar at the Hebrew University of Jerusalem. It was eventually published in his 2010 book *Domestic Settings* (Brill). Following completion of his Ph.D. Adrian immediately set out to write his first book on Crusader archaeology, *Crusader Archaeology. The Material Culture of the Latin East* (Routledge, 1999), a pioneering book on the subject, a second edition of which was published in 2017 (a third is due in 2023).

His first excavation was at the ancient site of Tell Dor (Cr. *Merle*), where he spent three years, eventually in the role of area director; and his first independent excavation was at the small crusader fortified tower at Beth Shean (Cr. *Bessan*). This was followed by excavations and surveys in and near Jerusalem, Caesarea, the fortresses of Blanchegarde and Vadum Iacob, and an excavation of the University of Haifa and the Deutcher Orden that discovered the long-lost Teutonic quarter in Acre. This connection subsequently led to his highly recognised project at Montfort Castle. The University of Haifa Montfort Castle Project (MCP) began in 2006 with a generous grant from the Israel Academy of Science (ISF) and has since become one of the most exciting excavations of a Frankish stronghold in the Latin East. The numerous finds are constantly brought to light in a series of scientific publications that, like all of Adrian's books, are received with great appreciation by the academic community and, exceptionally, also by the general public. Following a long series of books and several edited volumes, Adrian's list of publications has now taken a somewhat different direction with the publication of his latest book, a novel entitled *The Sulphur Priest* (Wheatmark, 2021). Adrian's main contributions since his publication of *Crusader Archaeology* (Routledge, 1999, 2nd ed. 2017); *Jerusalem in the Time of the Crusades* (Routledge, 2001); *Archaeology of the Military Orders* (Routledge, 2006); *Domestic Settings* (Brill, 2010) based on his Ph.D. dissertation and the edited volume *The Crusader World* (Routledge, 2016); and the highly prestigious publication, first in a new series, *Montfort* (Brill, 2017, winner of the 2017 Verbruggen Prize).

Until recently (2016–2021), Professor Boas served as president of the Society for the Study of the Crusades and the Latin East (SSCLE), where he had served as an assistant secretary (from 2009) and from 2013 also as secretary to the then president of the SSCLE (until 2016).

An artist, a novelist and a poet, and for the last four years also a popular blogger (a blog that has produced a now in-press volume of short essays on Crusader-related topics), Adrian's research encompasses the archaeology of the Latin East, material culture, architecture and medieval art, historiography and, not least – the Crusades and the Latin East and the military orders, with particular emphasis on the Teutonic Order. Throughout the years, Adrian's two major fields of research – history and archaeology – have proven to be indispensable to one another. It was only to be expected that our call for contributions to this *festschrift* would meet with an enthusiastic response. Indeed, it is due to the large number of articles received from so many scholars who have dedicated their studies in honour of Adrian's work, that these two subjects – history and archaeology – are being published in separate volumes. The first volume is dedicated to studies in medieval history and the second to studies in Crusader-period archaeology.

We, as Adrian's former students at various stages of our academic lives, are grateful for the opportunity to present Adrian with your contributions. We wish to thank all of you who responded so warmly to the invitation to contribute to this *festschrift*, and greatly appreciate you all for your friendship as much as for your original articles. We are deeply grateful to Christoph Maier and Michael Greenwood for their patience during the editorial/publishing process and to our board members – Sophia Menache, Benjamin Z. Kedar, Denys Pringle and Peter Edbury, for their guidance and support.

1 In search of Ibelin Castle

Experimenting with non-destructive archaeology

Benjamin Z. Kedar

The castle of Ibelin, erected in 1141 at Yubnā (ancient Yavne/Jamnia), formed part of a string of strongholds whose purpose was to block raids from Fatimid Ascalon against Jaffa, Ramla, Jerusalem and Hebron, and to serve as launch pads for counter-raids against Ascalon. Ibelin protected the road from Ascalon to Jaffa; Castellum Arnaldi (Yālū], fortified in 1132–1133, and Toronum Militum/Toron de los Caballeros [Laṭrūn], erected ca. 1137, guarded the roads from the coast to Jerusalem; Bethgibelin [Beth Guvrin, Bayt Jibrīl], fortified ca. 1134, watched over the road from Ascalon to Hebron; and Blanche Garde [Tell al-Ṣāfī], built in 1142, defended the gap between Ibelin and Bethgibelin.[1] The security provided by these fortresses appears, however, to have been only partial. Ranieri Scacceri, the idiosyncratic enthusiast and future patron saint of Pisa – who lived in Jerusalem between 1139 and 1154 – told his biographer that the people with whom he traveled from Jerusalem to Hebron were afraid of attacks by *Ascalonite*, i.e., Muslim raiders from

---

* My thanks to Prof. Dan Bahat, Dr. Eyal Baruch, Inbal Bezalel-Pisetzky, Avi Buzaglo Yoresh, Naomi, Eldar and Arad Buzaglo Yoresh, Krina Doekes Brandt, the late Prof. Moshe Fischer, Dr. Yarden Kedar, Prof. Aren M. Maeir, Naomi Morag, Prof. Elchanan Reiner and Uri Shamir for their help and suggestions.

[1] See Joshua Prawer, "Ascalon and the Ascalon Strip in Crusader Politics," *Eretz-Israel* 4 (1956), 231–251 [Hebrew]; idem, *Histoire du royaume latin de Jérusalem*, trans. Gérard Nahon, 2 vols. (Paris, 2001²), 1: 328–331 (with map); his argument is based on the descriptions by William of Tyre (see note 7). The construction of Toronum Militum by Count Rodrigo González de Lara is known from a Castilian chronicle: "peregre profectus est Hierosolimam ubi et commisit multa bella cum Sarracenis fecitque quoddam castellum valde fortissimum a facie Ascalonie, quod dicitur Toron." *Chronica Adefonsis imperatoris* 1.48, in *Chronica Hispana saeculi XII*, eds. Emma Falque, Juan Gil and Antonio Maya, CCCM 71 (Turnhout, 1990), 172, passage first noted by Rudolf Hiestand, "Un centre intellectuel en Syrie du Nord?" *Le Moyen Age* 100 (1994), 29–32 [The suggestion that the count built the castle at Summil (recte Summeil, Palestine Grid 1307/1193) – see Michael Ehrlich, "The Lost Castle of Count Rodrigo González," *Anuario de Estudios Medievales* 45 (2015), 783–801 – is implausible]. See also in general Hugh Kennedy, *Crusader Castles* (Cambridge, 1994), 30–31, Adrian J. Boas, *Crusader Archaeology: The Material Culture of the Latin East* (London and New York, 1999²), 104–105. For brief descriptions of the strongholds' remains see Denys Pringle, *Secular Buildings in the Crusader Kingdom of Jerusalem. An Archaeological Gazetteer* (Cambridge, 1997), Nos. 235 (Ibelin), 231 (Castellum Arnaldi), 136 (Toronum Militum), 32 (Bethgibelin), 194 (Blanchegarde).

DOI: 10.4324/9781003146926-2

Ascalon.[2] We do not know the date of Ranieri's trip to Hebron, but his testimony reveals that the fear of Ascalonite raids deep into Frankish territory evidently persisted for several years after the foundation of Bethgibelin.

In 1149 the Frankish pressure on Ascalon intensified with the construction of a castle in Gaza, thereby completing the ring of fortresses around the city. Usāma ibn Munqidh noted that by that time this ring served offensive purposes: The fortresses, he wrote, "are close to one another and house large numbers of cavalry so that the Franks can attack Ascalon day and night."[3] Yet even at this stage the Muslims were capable of mounting attacks into Frankish territory: Usāma relates that – presumably in early 1151[4] – he participated with other Ascalonitans in raids against Bayt Jibrīl (Bethgibelin) and Yubnā (Ibelin), and claims that during the assault on the latter they "killed about a hundred souls and captured some prisoners."[5] It was only on 19 August 1153, after a siege of almost seven months, that Ascalon surrendered to the Franks. About a decade later they erected a further castle at Darum (Dayr al-Balaḥ), southwest of Gaza, on the way to Egypt.[6]

To judge from the descriptions by William of Tyre and from archaeological remains, these castles were of the *quadriburgium* type, consisting of four walls that enclosed a courtyard, and of four rectangular and projecting corner towers.[7] In Ibelin, according to William, the castle was built on the top of a hill and had four towers, and while stones of ancient buildings were used for its construction, many ancient wells supplied water in abundance. The castle erected, King Fulk granted it to Balian the Elder – father of Hugo, Baldwin, and Balian the Younger, all of whom were known henceforth as "of Ibelin."[8] Baldwin's daughter Eschiva became queen-consort of Cyprus, and her descendants ruled the island as kings; Balian the Younger and his descendants played key roles in the Kingdom of Jerusalem.[9]

---

[2] Benincasa, "Vita sancti Rainerii confessoris de civitate Pisana," in *San Ranieri di Pisa (117–1160) in un ritratto agiografico inedito del secolo XIII*, ed. Réginald Grégoire (Ospedaletto, 1990), 129. On Ranieri see B. Z. Kedar, "A Second Incarnation in Frankish Jerusalem," in *The Experience of Crusading, 2: Defining the Crusader Kingdom*, eds. Peter Edbury and Jonathan Phillips (Cambridge, 2003), 79–92; idem, "Un Santo venuto da Gerusalemme: Ranieri Scacceri," in *I Santi venuti dal mare*, Atti del Convegno Internazionale di studio (Bari-Brindisi, 14–18 dicembre 2005), ed. Maria-Stella Calò Mariani (Bari, 2009), 173–180.

[3] Usama ibn Munqidh, *The Book of Contemplation. Islam and the Crusades*, trans. Paul M. Cobb (London, 2008), 25.

[4] For the date see André Miquel, *Usāma Ibn Munqidh, Des enseignements de la vie. Souvenirs d'un gentilhomme syrien du temps des Croisades* (Paris, 1983), 112, n. 98.

[5] Usama ibn Munqidh, *The Book of Contemplation*, 26. – For an interpretation that plays down Ascalon's threat to the Franks from the mid-1120s onward see Ronnie Ellenblum, *Frankish Rural Settlement in the Latin Kingdom of Jerusalem* (Cambridge, 1998), 15–18; idem, *Crusader Castles and Modern Histories* (Cambridge, 2007), 156–157, 161, 175.

[6] For the castle of Gaza see Denys Pringle, *The Churches of the Crusader Kingdom of Jerusalem. A Corpus*, 4 vols. (Cambridge, 1993–2009), 1: 208; for Darum, see idem, *Secular Buildings*, no. 80.

[7] See WT 14.8, pp. 639–640 (Castrum Arnaldi);14.22, p. 660 (Bethgibelin); 15.25, p. 708 (Blanchegarde); 17.12, pp. 775–776 (Gaza; William stresses the defensive-offensive functions of the last three castles); 20.19, pp. 936–937 (Darum). The descriptions of the remains are summarized by Pringle, *Secular Buildings* (see notes 1, 6). Guillaume-Rey was probably the first to suggest that the plan of Ibelin resembled that of Blanche Garde and of similar castles: Emmanuel Guillaume-Rey, *Étude sur les monuments de l'architecture militaire des Croisés en Syrie et dans l'île de Chypre* (Paris, 1871), 125.

[8] WT 15.24, pp. 706–707. William's French adapter explains that the stones were taken from old fortresses and famously remarks, "car, com si l'en dist: Chasteaus abatuz est demi refez."

Jean of Ibelin (d. 1266) – a grandson of Balian the Younger – lists Darum, Ibelin, Bethgibelin, Blanche Garde and Gaza among the places in which a Court of Burgesses (*cort de borgesie*) was active,[10] evidently before the fall of the First Kingdom of Jerusalem in 1187. Thus we learn that not only knights resided in these localities but also commoners; presumably the knights lived in the castle and the commoners in a *faubourg* underneath its walls.[11] Speaking of Darum, William of Tyre relates that in the wake of the small castle's erection some Frankish peasants and traders established there a suburb (*suburbium*) and built a church not far from the castle, and he exhibits an understanding of the settlers' motivation by remarking: "Poorer people may do well more easily in such a place than in the cities."[12] At some stage the *faubourgs*, too, may have been fortified, possibly in the early 1170s when Saladin threatened to invade the kingdom from the south;[13] Ibelin's *faubourg* may have been encircled by walls already in the wake of the devastating attack of 1151 mentioned by Usāma.[14] William reports that when Saladin attacked Darum in December 1170, he breached the wall of the *municipium* (i.e., the *faubourg*) and occupied a part of it, and the inhabitants fled to the castle (*arx*).[15] By 1192 Darum was protected by 17 towers,[16] many of which presumably defended the *faubourg*'s wall.[17] We may assume a similar layout in some of the other castles that encircled Ascalon. In Bethgibelin, where the presence of commoner settlers is attested by the famous charter of 1168,[18] the church was built outside the quadrilateral castle, probably serving as the settlers' parish church.[19] In Blanche Garde, vestiges of what appears to have been the settlers' village were uncovered on a plateau about 400 m northeast of the

---

Guillaume de Tyr et ses continuateurs. Texte français du XIII^e siècle, ed. Paulin Paris, 2 vols. (Paris, 1879–1880), 2: 83.

[9] For a brief overview see Peter Edbury, "Ibelins," in *The Crusades. An Encyclopaedia*, ed. Alan V. Murray, 4 vols. (Santa Barbara, CA, 2006), 2: 623–625.

[10] John of Ibelin, *Le Livre des Assises*, ch. 236, ed. Peter W. Edbury (Leiden-Boston, 2003), 603–604.

[11] On commoners establishing *faubourgs* under the castles, and on the probability of a likewise development in Ibelin, see Joshua Prawer, *Crusader Institutions* (Oxford, 1980), 105–109 [the reproduced article appeared originally in 1951].

[12] "ubi tenuiores homines facilius proficerent quam in urbibus." WT 20.19, p. 937. Statement quoted by Adrian J. Boas and Aren M. Maeir, "The Frankish Castle of Blanche Garde and the Medieval and Modern Village of Tell es-Safi in the Light of Recent Discoveries," *Crusades* 8 (2009), 5. It is noteworthy that the French adapter of William of Tyre writes:"La povre gent i demoroient plus volentiers que dedenz les citez," *Guillaume de Tyr et ses continuateurs* 2: 339.

[13] For this hypothesis see Boas and Maeir, "The Frankish Castle of Blanche Garde," 22.

[14] See note 5.

[15] WT 20.19, p. 936.

[16] *Itinerarium peregrinorum et gesta regis Ricardi*, 5.39, ed. William Stubbs, Rolls Series 38.1 (London, 1864), 353.

[17] Cf. Pringle, *Secular Buildings*, no. 80, p. 46.

[18] See the analyses by Prawer, *Crusader Institutions*, 119–126; Ellenblum, *Frankish Rural Settlement*, 76–77, 82–83, 142–143.

[19] Hypothesis put forward by Pringle, *Churches*, 1: 100.

castle.[20] In Ibelin, Balian the Elder allowed a *municipium* to spring up: so relates William of Tyre.[21] *Paletel vicecomes Ybelini* witnessed in 1158 a deed of sale by Balian's son Hugo, the castle's lord at the time[22] and, since a viscount habitually presided over a *cort de borgesie*, Paletel's title may point toward the presence of a Court of Burgesses in Ibelin already by 1158.[23] Its existence is obliquely referred to in a case that came before Jerusalem's Court of Burgesses some time before 1187. A man called Simon attempted to sue at that court "sire Estiene, qui est de Iblin" (*sic*) for a house in that *ville* he claimed to have inherited from his brother; but it was decided that the case must be adjudicated in the *ville* in which the *bourgessie* (property held in burgage-tenure) was located, that is, in Ibelin.[24]

The twelfth-century sources do not mention a church at Ibelin, but its existence is proven by the substantial vestiges that survived, as we shall see, down to 1950. The sources do mention three of the apparently more important men of Ibelin: *Nicholaus de Hybelino* appears in 1158 as a *homo* (vassal) of Hugo of Ibelin;[25] *Jordanus de Hybelino* attests two years later to another of Hugo's deeds;[26] an 1165 deed of Hugo's younger brother Baldwin mentions as witnesses both Jordanus Ybelin and Nicholaus de Ybelino; and a deed of 1166 discloses that *Nicholaus* had a brother called *Osmundus*.[27] In the latter year King Amaury confirmed that Jerusalem's *Templum Domini* possessed at Ibelin houses with an orchard and four *carrucae* of land donated by Balian [probably the Elder], as well as two other *carrucae*.[28] At about the same time Benjamin of Tudela passed through the area and remarked that "Ibelin is Yavne, the place of the *Midrash*,[29] and no Jews live there."[30] In about 1174, ʿAlī ibn Abī Bakr al-Harawī, the author of the well-known pilgrimage guide to holy places, visited Yubnā and noted that the tomb of Abū Hurayra – a Companion of the Prophet – is located there,[31] which means that the Franks did not destroy it, or perhaps re-dedicated it as some Christian saint's tomb.

---

[20] Boas and Maeir, "The Frankish Castle of Blanche Garde," 13, and plan on p. 3. More recent excavations reveal that said plan considerably underestimates the castle's size; a stretch of its massive wall and a large, partly rounded tower have come to light in the southern part of Area F of that plan: Jeffrey R. Chadwick and Aren M. Maeir, "The Stratigraphy and Architecture of Area F-Upper, Strata F4-F8a," in *Tell es-Safi/Gath II. Excavations and Studies*, eds. Aren M. Maeir and Joe Uziel (Münster, 2020), 291, 326–337.

[21] "cuius gratia municipium erat conditum," WT 15.24, p. 707.

[22] *Cart St Sép*138, no. 51.

[23] Hypothesis proposed by Pringle, *Churches*, 2: 379. On the *vicecomes* as presiding over the Court of Burgesses see Prawer, *Crusader Institutions*, 52, 263–295, 331.

[24] "Livre des Assises de la Cour des Bourgeois," c. 224, in *RHC Lois* 2: 155. The decision was first noted by Marwan Nader, *Burgesses and Burgess Law in the Latin Kingdoms of Jerusalem and Cyprus (1099–1325)* (Aldershot, 2006), 133, 154. On *borgesie*, see the views of Prawer, *Crusader Institutions*, 250–262, and Nader, *Burgesses*, 8–9, 14–15, 26, 32–33 et passim.

[25] *Cart St Sép*138, no. 51; see also 130, no. 47.

[26] *Cart St Sép*142, no. 53.

[27] Cart Hosp 1:238, 245, nos. 340, 354.

[28] *Die Urkunden der lateinischen Könige von Jerusalem*, *MGH Diplomata regum latinorum hierosolymitanorum*, ed. Hans Eberhard Mayer. 4 vols. (Hanover, 2010), 2:552, no. 316. On the Frankish *carruca* as amounting to no more than 2 hectares of agricultural land see Ellenblum, *Frankish Rural Settlement*, 98–99, 185.

[29] That is, the supreme Jewish court, the Sanhedrin, re-established at Yavne after the destruction of Jerusalem in 70 AD.

After Saladin's victory at Ḥattīn (4 July 1187), his younger brother al-ʿĀdil – known in the West as Saphadin – led an army from Egypt into Palestine and, unable to capture Gaza and Ascalon, conquered Ibelin and set it on fire.[32] The brief heyday of Frankish Ibelin was over.

In 1191–1192, during the Third Crusade, both Saladin and Richard the Lionheart camped at Ibelin/Yubnā – Saladin used the opportunity to pilgrimage to the tomb of Abū Hurayra[33] – and the place figures also elsewhere in accounts of the hostilities.[34] A hoard of 53 Frankish billon *denarii* and three silver dirhams struck under Saladin's rule, excavated northwest of the castle in 2009, may well have been lost (by a Frank? a Muslim?) in this stormy period, because the latest of the dirhams date from 586 H/8 February 1190–28 January 1191.[35] According to the truce of 1192, Ibelin (and all the area south of Jaffa) remained in Saladin's hands.[36] In 1241

---

[30] Benjamin of Tudela, *The Itinerary of Benjamin of Tudela*, ed. and trans. Marcus Nathan Adler (London, 1907), 28 (text), 27 (translation). For the approximate date of his visit see David Jacoby, "Benjamin of Tudela and his 'Book of Travels'," in *Venezia incrocio di culture. Percezioni di viaggiatori europei e non europei a confronto. Atti del convegno, Venezia, 26–27 gennaio 2006*, eds. Klaus Herbers and Felicitas Schmieder (Rome, 2008), 147, repr. in idem, *Travellers, Merchants and Settlers in the Eastern Mediterranean, 11th–14th Centuries* (Farnham, 2014), Study II.

[31] *A Lonely Wayfarer's Guide to Pilgrimage. ʿAlī ibn Abī Bakr al-Harawī's Kitāb al-Ishārāt ilā Maʿrifat al-Ziyārāt*, ed. and trans. Josef W. Meri (Princeton, 2004), 82–83. Statement repeated by Yāqūt (d. 1229): Guy Le Strange, *Palestine under the Moslems. A Description of Syria and the Holy Land from AD 650 to 1500* (London, 1890), 553.

[32] *The Conquest of the Holy Land by Salāh al-Dīn. A Critical Edition and Translation of the Anonymous Libellus de expugnatione Terrae Sanctae per Saladinum*, eds. Keagan Brewer and James H. Kane (Abingdon and New York, 2019), 164–165; B. Z. Kedar, "Ein Hilferuf aus Jerusalem vom September 1187," *Deutsches Archiv* 38 (1982), 121–122, repr. in idem, *The Franks in the Levant, 11th to 14th Centuries* (Aldershot, 1993), Study X. According to Ibn Shaddād, Saladin took Yubnā in August 1187, during his advance on Ascalon: Bahā al-Dīn Ibn Shaddād, *The Rare and Excellent History of Saladin*, trans. D. S. Richards (Aldershot, 2001), 76.

[33] Saladin on 11 and 24 September 1191, Richard in mid-January 1192: Ibn Shaddād, *The Rare and Excellent History of Saladin*, 178, 180; ʿImād ad-Dīn al-Isfahānī, *Conquête de la Syrie et de la Palestine par Saladin*, trans. Henri Massé (Paris, 1972), 345, 347; *Itinerarium peregrinorum et gesta regis Ricardi*, 5.3, p. 311.

[34] ʿImād ad-Dīn, *Conquête*, 374 (Muslim attack on 28 January 1192 against the Crusaders who intended to hold Yubnā), 375 (Muslim advance in the direction of Yubnā on 1 March 1192).

[35] See Robert Kool and Uzi ʿAd, "A Late Twelfth-Century Silver Purse Hoard from Ibelin," *Israel Numismatic Research* 11 (2016), 163–180. The hoard was found at the base of Tel Yavne's western slope, at the northwestern edge of the pre-1948 village of Yibnā. The authors, assuming that the village and Ibelin's *faubourg* overlapped, hypothesized that the hoard was found at the fringe of the erstwhile *faubourg*.

[36] ʿImād ad-Dīn, *Conquête*, 393; cf. Ibn Shaddād, *The Rare and Excellent History of Saladin*, 229.

Ibelin came again under Frankish control,[37] but after a few years it reverted to Muslim rule, this time for good. In February 1265, before his assault on Caesarea, the Mamluk sultan Baybars camped at Yubnā.[38] In about 1273 he ordered the building, northeast of the erstwhile castle, of a bridge with three arches and breakwaters, presumably using materials from Ibelin's church or castle. The still existing bridge, as well as its almost identical twin north of Lydda, allowed for all-season traffic along one of the roads that linked Egypt with Syria.[39] In 1274 Baybars added a porch to the tomb of Abū Hurayra just west of the castle. It is noteworthy that the porch, like the entrance to Ibelin's church not far from it, was decorated with a cushion voussoir. And in 1292 Sultan al-Ashraf Khalīl ordered the erection of the imposing Abū Hurayra Mausoleum that stands there to this day, with a Frankish sarcophagus at the tomb's center.[40] For Jews, it was the tomb of Rabban Gamaliel the Second, who led the Sanhedrin at Yavne late in the first century AD. The author of an anonymous Hebrew itinerary, probably of the late thirteenth century, writes: "And between Gath and Gaza there is the town of Yavne. There Rabban Gamaliel is buried, and above him a very fine dome, and it was a prayer house of the Ishmaelites, an exceptionally magnificent building, and they call it Abū Hudayra (*sic*)".[41]

---

[37] Matthew Paris lists the *castrum de Hybilis* among the places the Ayyubids ceded to Richard of Cornwall in 1241: *Chronica majora*, ed. Henry R. Luard, Rolls Series 57, 7 vols. (London, 1872–80), 4: 142. In 1998 Pringle wrote that Hybilis is Ibelin (*Churches*, 2: 379), even though Paris listed Hybilis among Galilean localities, noting that it is "ultra flumen versus orientem." However, in 2019 Rabei G. Khamisy and Denys Pringle re-edited the text and now Hybil[in] is listed after Yālū and before Ascalon: Rabei G. Khamisy and Denys Pringle, "Richard of Cornwall's Treaty with Egypt, 1241," in *Crusading and Trading Between West and East: Studies in Honour of David Jacoby*, eds. Sophia Menache, B. Z. Kedar and Michel Balard (London and New York), 69, 75–76.

[38] Peter Thorau, *The Lion of Egypt. Sultan Baybars and the Near East in the Thirteenth Century*, trans. P. M. Holt (London and New York, 1992), 159.

[39] See Charles Clermont-Ganneau, *Archaeological Researches in Palestine during the Years 1873–1874*, 2 vols. (London, 1896–99), 2: 173–175, 181–182; Pringle, *Churches*, 2: 379.

[40] Clermont-Ganneau, *Archaeological Researches in Palestine*, 2: 167–168, 174–181; L. A. Mayer, J. Pinkerfeld and J. W. Hirschberg, *Some Principal Muslim Religious Buildings in Israel* (Jerusalem, 1950), 21–24; Hana Taragan, "Politics and Aesthetics: Sultan Baybars and the Abu Hurayra/Rabban Gamliel Building in Yavne," in *Milestones in the Art and Culture of Egypt*, ed. Asher Ovadiah (Tel Aviv, 2000), 117–143; eadem, "Al-Ashraf Khalil and the Abu Hurayra/Rabban Gamliel Tomb in Yavneh in the Early Mamluk Period: Architecture as Propaganda," in *Yavneh, Yavneh-Yam and Their Neighborhood. Studies in the Archaeology and History of the Judean Coastal Plain*, ed. Moshe Fischer (Tel Aviv, 2005), 317–338 [in Hebrew]. In the first of these articles, Taragan drew attention to the cushion voussoirs of the church and the porch and offered explanations (p. 130).

[41] *Elleh ha-Massaʿot*, ed. Eliakim Carmoly (Brussels, 1841), 26. See Joshua Prawer, *The History of the Jews in the Latin Kingdom of Jerusalem* (Oxford, 1988), 249 (Prawer used a different edition). For an analysis of this itinerary see Elchanan Reiner, "'Oral versus Written:' The Shaping of Traditions of Holy Places in the Middle Ages," in *Studies in the History of Eretz Israel Presented to Yehuda Ben Porat*, eds. Yehoshua Ben-Arieh and Elchanan Reiner (Jerusalem, 2003), 328–345 [in Hebrew]. For a recent examination of the Yubnā/Yavne traditions within a wide context see Daniel Boušek, "' . . . And the Ishmaelites Honour the Site:' Images of Encounters between Jews and Muslims at Jewish Sacred Places in Medieval Hebrew Travelogues," *Archív Orientální* 86 (2018), 31.

Here the Jewish and Muslim traditions are set side by side; but for Rabbi Ishtori ha-Farhi, in his book *Kaftor va-Ferah*, completed in 1322, the site was Jewish, pure and simple: ""In Yavne you shall find Rabban Gamaliel, today in a very fine building, with his gravestone."[42]

Similarly to what happened in many other deserted Frankish castles – for instance, Belvoir/Kawkab al-Hawā and Belmont/Ṣūbā[43] – Muslim peasants, at an unknown date, built their dwellings within the ruins of Ibelin, now called Yubnā. A part of the church was re-dedicated as a mosque; possibly the lower part of the base of its imposing minaret, constructed in 1337 and still standing, corresponds to the belfry of the church.[44] Perhaps the bridge to its east and the mausoleum to its west bestowed importance on Yubnā. At any rate, according to the Ottoman census of 1596–1597, it was one of the largest villages in the region, with 129 family heads, all of them Muslims, living in it.[45] At an unknown point, the name Yubnā gave way to Yebnā or Yibnā.

Johann Martin Augustin Scholz, a professor of theology at the University of Bonn who visited Palestine in 1821, appears to have been the first modern explorer to refer to Ibelin's remains. "In *Jebna*," he wrote, "there are still the ruins of a church later turned into a mosque, which is however now deserted and destroyed in part." He did not mention the castle, but dwelt on the contrast between the "miserable huts" in which the local Arabs lived and the fragments of columns, heaps of broken bricks and remains of bridges and buildings visible around the village.[46]

---

[42] Ishtori ha-Farhi, *Sefer Kaftor va-Ferah*, ch. 11, eds. Avraham Yosef Havazelet et al., 3 vols. (Jerusalem, 1994–99), 2:76. Against the background of the previously quoted texts of the thirteenth and fourteenth centuries, it is strange that Mayer and Pinkerfeld stated in 1950 with regard to the Abū Hurayra Mausoleum: "Its legend-creating qualities have lasted till our own days: quite recently we heard of a belief prevalent among Oriental Jews that here is situated the tomb of Rabbi Gamliel of Yavneh." Mayer, Pinkerfeld and Hirschberg, *Some Principal Muslim Religious Buildings*, 22.

[43] On this phenomenon, see Boas and Maeir, "The Frankish Castle of Blanche Garde," 1; B. Z. Kedar, "Muslime in den fränkischen Burgen des Königreichs Jerusalem," *Burgen und Schlösser* 52 (2011), 212–218.

[44] This was suggested by Clermont-Ganneau, *Archaeological Researches in Palestine*, 2:169; see also 176. For the revised transcription and translation of the Arabic inscription on the minaret's northern wall see Moshe Sharon, "The Inscription of the Minaret Built by Amīr Bashtāk, 738 AH/1337 CE," *Tel Aviv. Journal of the Institute of Archaeology of Tel Aviv University* 34 (2007), 258.

[45] Wolf-Dieter Hütteroth and Kamal Abdulfattah, *Historical Geography of Palestine, Transjordan and Southern Syria in the Late 16th Century* (Erlangen, 1977), 143. It is instructive to compare Yibnā (Ibelin) to other villages that sprang up at sites of Frankish castles that had encircled Ascalon: Yālū (Castellum Arnaldi) – 38 Muslim family heads (p. 154), Bayt Jibrīn (Bethgibelin) – 50 (p. 149), Tell al-Ṣāfī (Blanche Garde) – 88 (p. 150), Dayr al-Balaḥ (Darum) – 175 Muslim, 125 Christian family heads (p. 144). Dayr al-Balaḥ appears in the census as Dayr al-Dārūm.

[46] Johann Martin Augustin Scholz, *Reise in die Gegend zwischen Alexandrien und Parätonium, die libysche Wüste, Siwa, Egypten, Palästina und Syrien in den Jahren 1820 und 1821* (Leipzig and Sorau, 1822), 146. Robinson, who did not visit the place in 1838, summarized Scholz's account in a footnote: Edward Robinson, *Biblical Researches in Palestine, Mount Sinai and Arabia Petraea*, 3 vols (London, 1841), 2:227 n. 2.

The crusade historian Jean-Joseph-François Poujoulat, who visited *Ibna* in 1831, noted that the remains of Ibelim [*sic*] Castle served for the construction of the Arab village and that the church "in which the Lord Balian and his knights had prayed, survives almost entirely, dedicated to Mahomet's cult." About 100 families lived in the village, whose notables were surprised to learn from their visitor that 600 years earlier it had been a French seigniory called Ibelim.[47] On the other hand, the American missionary William McClure Thomson, in the very popular account of his tour of the country in 1857, remarked briefly that at *Yebna* "there are traces of old buildings . . . but no remains of any remarkable edifice."[48] Two years later Emmanuel Guillaume-Rey, the founder of crusade archaeology, similarly observed that but for shapeless debris, lost amid the houses of the village of *Ebneh*, nothing is left of Ibelin Castle.[49] The explorer Victor Guérin, who visited *Yebneh* in 1863, described the village at some length and mentioned the minaret standing "at one corner of a mosque that replaced a Christian church, probably the former chapel of Ibelin Castle."[50] Eleven years later, the eminent archaeologist Charles Clermont-Ganneau dealt in detail with the church-turned-mosque of *Yebnā*, prepared its plan and discovered its blocked western entrance, which he presented with some exaggeration as "a perfect gem of Gothic architecture" (Figure II.1.1). He did not mention the castle.[51] The officers of the Survey of Western Palestine who visited *Yebnah* in 1875 noted that local inhabitants still called the mosque "el Keniseh" (that is, "the church"). They did not mention any vestiges of the castle, but observed that "the modern village occupies a strong site on a rounded hill, the houses being mostly of mud."[52]

Camille Enlart, the historian of Frankish art, remarked in his *magnum opus*, published posthumously in 1928, that Ibelin Castle left behind "des vestiges interéssants" that conform to William of Tyre's description, but unfortunately he did not spell out the nature of these vestiges and went on to focus, like his predecessors, on *Yebnā*'s church-turned-mosque.[53] But 14 years later such vestiges were noted,

---

[47] Joseph-François Michaud and Jean-Joseph-François Poujoulat, *Correspondance d'Orient, vol. 5: 1830–1831* (Paris, 1834), 372–374.

[48] William M. Thomson, *The Land and the Book: Or, Biblical Illustrations Drawn from the Manners and Customs, the Scenes and Scenery of the Holy Land*, 2 vols. (New York, 1859), 2: 312–313.

[49] Guillaume-Rey, *Étude sur les monuments de l'architecture militaire des Croisés*, 125.

[50] Victor Guérin, *Description géographique, historique et archéologique de la Palestine, 1: Judée*, 3 vols. (Paris, 1868–69), 2:56.

[51] Clermont-Ganneau, *Archaeological Researches in Palestine*, 2: 167–173. Possibly the Frankish church was built at the site of Yubnā's "beautiful mosque" mentioned by al-Muqaddasī in about 985: al-Muqaddasī, *The Best Divisions for Knowledge of the Regions (Ahsan al-Taqasim fi Maʿrifat al-aqalim)*, trans. B. A. Collins (Reading, 1994).

[52] Claude Reignier Conder and Horatio Herbert Kitchener, *Survey of Western Palestine. Memoirs, vol. 2: Samaria* (London, 1882), 441–442.

[53] Camille Enlart, *Les monuments des Croisés dans le Royaume de Jérusalem. Architecture religieuse et civile*, 2 vols. + 2 albums (Paris, 1925–28), 2: 133–134. Enlart believed that the church was seriously damaged by artillery during World War I.

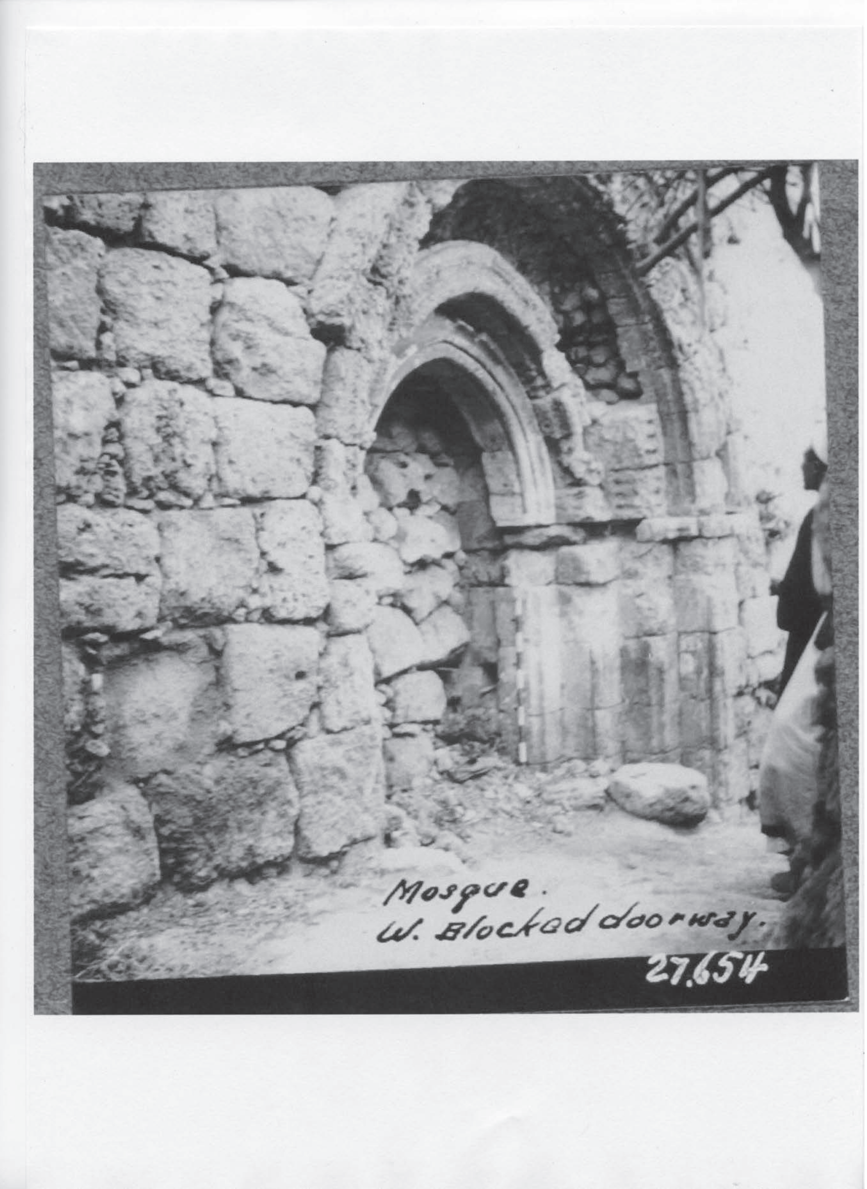

Mosque.
W. Blocked doorway.
27.654

Figure II.1.1 Western entrance to the church of Ibelin. Photo: Salem ʿAbd es-Salam Husseini. IAA. The Scientific Archive, 1919–1948. Yibna, SRF_194(45/45), photo 27.654. © IAA

and photographed, by Antiquities Inspector Salem ʿAbd es-Salam Husseini, an archaeologist who worked on behalf of British Palestine's Department of Antiquities. In his report about *Yebna* of 21 May 1942, Husseini dwelt mostly on the Abū Hurayra Mausoleum and on the mosque (labeled on one of his photos as "el Kenise mosque"), but also stated: "On top of hill in village are remains of fortifications consisting of parts of walls and vaults built in squared sandstones. Scattered marble fragments are also noticed in village."[54] Husseini took three photos, which he labeled "Top of hill in village. Remains of fortifications,"[55] but he did not spell out their exact location. At an early stage of my work on Ibelin Castle I asked Naomi Morag, the designer, to combine the three photos into one. The composite photo shows a sizeable stretch of a wall, but my attempts to locate it on the detailed plan of Yibna (scale 1:1,250) prepared by the British in 1946,[56] or on the excellent aerial photo taken on 16 October 1949 by the Israeli–Dutch team headed by Zalman Leef,[57] ended up in failure.

Units of Israel's Givʿati Brigade conquered Yibna on 5 June 1948. Most villagers fled ten days earlier; the remaining "old Arab men and women" were now expelled.[58] On 23 April 1950 the committee for the preservation of Muslim religious buildings at Israel's Ministry of Religious Affairs published a trilingual (Hebrew–Arabic–English) book that described in considerable detail the main places of worship, which – as the Minister of Religious Affairs, Rabbi Judah L. Maimon, put it – "had been abandoned by the Muslim community when it departed from the country."[59] A photo of Yibnā appeared on the cover of the book, in which the authors – after a detailed examination of the Abū Hurayra Mausoleum – dedicated also a few lines to the church-turned-mosque. They stated that what remains of the church are vestiges of "two gates, apparently of local workmanship under Frankish guidance," and recommended that the building, now "in a good condition," should be "restored to the shape it had in the fourteenth century."[60] But this was not to be. On 9 July 1950 the mosque of Yibnā was blown up on the orders

---

54 Israel Antiquities Authority (hereafter IAA). The Scientific Archive, 1919–1948. Yibna, SRF_194(45/45), pp. 15–17. Husseini also noted and photographed carved stones re-used in the village's buildings (Photo 27.661). the carvings appear to be Classical or Byzantine (pers. comm., Professors Moshe Fisher and Denys Pringle, 5 August 2020).

55 Ibid., Photos 27.658–660. For the composite photo, see Figure II.1.6c below.

56 Village Surveys, Serial No. T/51/98. I used the copy in the Map Room of the Humanities Library, the Hebrew University of Jerusalem, Mount Scopus.

57 Survey of Israel, Leef Collection, No. 36–2964: 16–10–49, 12:55 hours, altitude 2,400 m.

58 Benny Morris, *The Birth of the Palestinian Refugee Problem Revisited* (Cambridge, 2004), 259. Under the British Mandate, the number of Yibna's inhabitants rose from 1,791 in 1922 to 5,400 in 1945: Government of Palestine, *Report and General Abstracts of the Census of 1922 taken on 23rd of October, 1922*, compiled by J. B. Barron (Jerusalem, 1922), 8; Government of Palestine, Office of Statistics, *Village Statistics, April 1945* (Jerusalem, 1945), 30.

59 Minister Maimon's preface to Mayer, Pinkerfeld and Hirschberg, *Some Principal Muslim Religious Buildings*, 1.

60 Ibid., 24.For a painstaking study of Ibelin's Frankish church see Pringle, *Churches*, 2: 378–384.

of OC Southern Command, General Moshe Dayan, as were other Muslim places of worship, "before it was announced that the demolition of the mosques should be stopped."[61] The village was either flattened alongside the mosque or some time later; only the Mamluk minaret was spared. The Tel on which the village (and before that, the castle) had stood, remains uninhabited and covered with dense vegetation down to this day. The only new structure is a round water reservoir, just west of the Tel's summit.

In 1970, Meron Benvenisti identified – above the deserted village, near the water reservoir – some ruins of Ibelin Castle: "Remains of a wall and square tower with the arch of a window."[62]

Repeating the gist of this information about three decades later, Denys Pringle remarked that it is impossible to determine the castle's plan without excavation.[63] Yet the breakthrough in the search for Ibelin Castle took place without an archaeological dig. In July 2003 a team consisting of geophysicist Paul Bauman, archaeologist Avner Goren, historian Richard Freund and geographer Philip Reeder started working at Yavne's Tel. They used three non-destructive techniques – small-area high-resolution photography from kites and balloons, ERT (electrical resistivity tomography) and GPR (ground penetrating radar) surveys – in order to gain insights about the Tel's history and to identify the most promising sites for excavation. The aerial photos, taken from a low altitude, revealed – west and northwest of the mosque's minaret – at least three circular piles of cut rock, each about 10 m across, connected by linear piles about 10–15 m long (Figure II.1.2). The team identified the circular piles as collapsed "battlements" and the linear ones as remnants of a wall, and proposed that the battlements and the wall were "the remains of the donjon, or inner keep" of Ibelin Castle. Also, Philip Reeder prepared a detailed contour map of the Tel.[64]

---

[61] Lt. Col. Michael Avitzur to Shmuel Yeivin, director, Department of Antiquities, 10 October 1950: IAA Archives, Israel Administrative Inspection Files, P/Yavne/mem. For an account of the demolition campaign, Yeivin's inability to stop it and the Army's initial refusal to disclose the truth see Daniella Talmon-Heller, B. Z. Kedar and Yitzhak Reiter, "Vicissitudes of a Holy Place: Construction, Destruction and Commemoration of Mashhad Husayn in Ascalon," *Der Islam* 93/1 (2016), 205–207.

[62] Meron Benvenisti, *The Crusaders in the Holy Land* (Jerusalem, 1970), 209. Benvenisti, having published a plan of the Frankish church (p. 208), went on to state that it "was destroyed by artillery bombardment during the First World War (*sic*)".

[63] Pringle, *Churches*, 2: 379.

[64] Paul Bauman, Avner Goren, Richard Freund and Philip Reeder, "Archaeological Reconnaissance at Tel Yavne, Israel: 2-D Electrical Imaging and Low Altitude Aerial Photography," *Recorder. Official Publication of the Canadian Society of Exploration Geophysics* 30/6 (June 2005), esp. Figures 2, 8 (aerial photos), 3 (contour map); Figure 2 is reproduced in the present article as Figure II.1.2. For a review of the team's work down to 2012 see Philip Reeder, Richard E. Freund, Harry M. Jol, Paul Bauman, Vanessa Workman, Shalom Yanklevitz, Maha Darawsha and Carl Savage, "From Bethsaida to Tel Yavne and Beyond," in *A Festschrift in Honor of Rami Arav: "And They Came to Bethsaida . . .,"* eds. Fred Strickert and Richard Freund (Newcastle upon Tyne, 2019), 315–336. My thanks to Prof. Moshe Fischer for having brought the two publications to my attention.

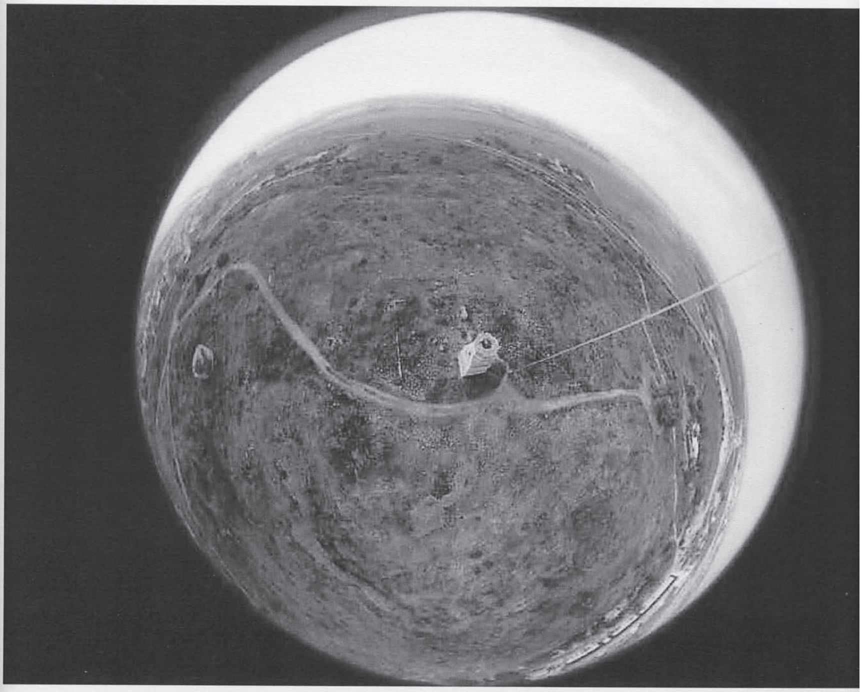


Figure II.1.2 Low altitude fisheye photo of the site, taken from the northwest. The Mamluk minaret is at the center. Reproduced with the kind permission of Prof. Philip Reeder, Duquesne University. © Philip Reeder, Duquesne University.

In July 2005 Dan Bahat started an excavation of Yavne's Tel that was to last for six seasons but was discontinued after the first. On the basis of the ERT survey of 2003, Bahat chose to concentrate on a segment of the Tel's summit (Area A), which he assumed to have formed part of Ibelin Castle. The point at which a wall running from Area A eastward reached the Tel's steep slope[65] was chosen for a second, smaller probe (Area B). In Area A, a Rectangular Room was unearthed: the southern wall underneath it consists of four courses of massive, well-preserved kurkar stones (Figure II.1.3); a loophole pointing southward (Figure II.1.4) indicates that this wall formed part of the castle's outer fortification, presumably its southwestern tower. The excavators assumed that the castle's gate was at the western end of the room and that a cistern was situated underneath it. Slightly northeast of the room they excavated remains of a bulky vault. No fortification was unearthed in Area B, though several kurkar stones, probably from the castle, and some Frankish ceramics, alongside shards from earlier and later periods, were found. The excavation was not published, but a long report about it may be consulted in the IAA archives.

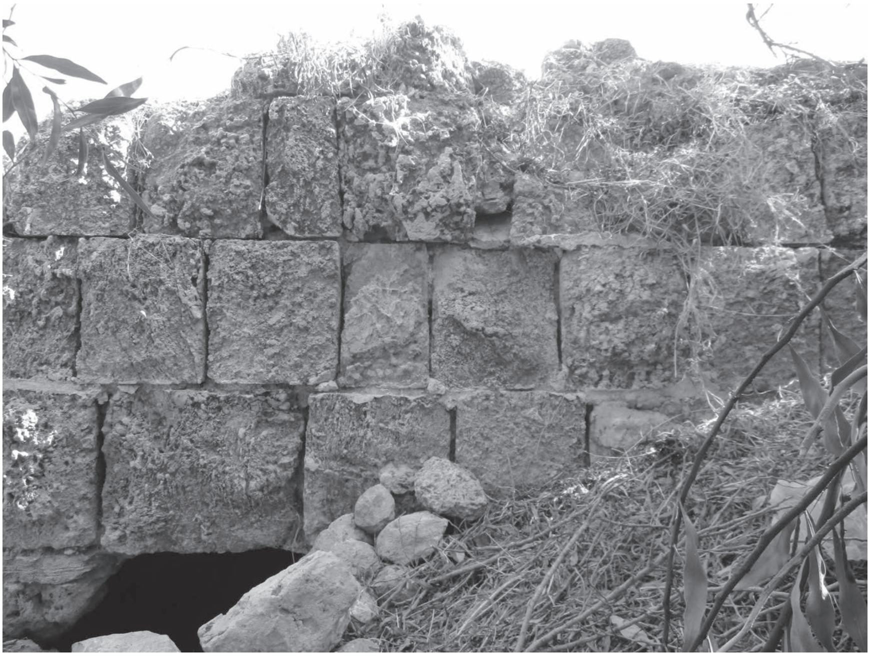


Figure II.1.3 The southern wall underneath the Rectangular Room – partial view. © B.Z. Kedar

---

[65] This wall is the one that will be presented later as the castle's northern wall. Point explained by Inbal Bezalel-Pisetzky, the excavator of Area A, in pers. com., 9 August 2020.

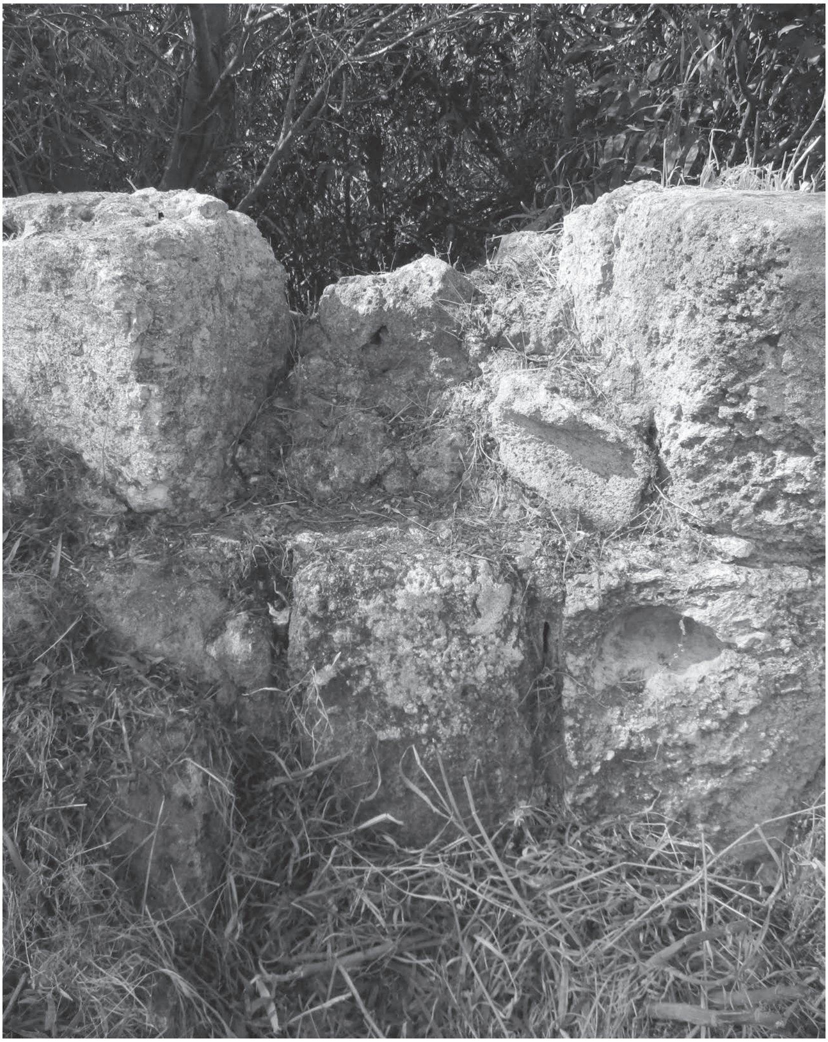


Figure II.1.4 Loophole of the southern wall, pointing southward. © B.Z. Kedar

It contains inter alia a drawing of three to six courses of stones labeled “Northern wall: View to the south,” location unspecified.[66]

---

[66] IAA Archives. Yavne, Tel. Dan Bahat, G56/2005 [in Hebrew]. The report does not present an overall plan showing the location of the two areas and the many loci on the Tel; the detailed account of the excavation at Area A (pp. 1–21), evidently not proofread, contains several incomprehensible sentences.

In 2007 Moshe Fischer and Itamar Taxel, who were preparing the map of the region of Yavne for the Archaeological Survey of Israel, published an overview and reevaluation of the historical sources and archaeological finds pertaining to Tel Yavne from the Middle Bronze Age down to the time of the British Mandate.[67] Their discussion of Ibelin Castle starts with the description, illustrated by a photograph, of a massive wall 3 m wide, of which they cleared a stretch 18 m long and ca. 2.5 m high. This, they wrote, was "probably the northern wall of the fort." They then turned to summarize the results of the Bahat excavation and to augment them with finds and observations of their own.[68] They measured the Rectangular Room of Bahat's Area A (external dimensions: 5.9 × 6.2 m, internal dimensions: 3.55 x 4.2 m) and affirmed that it stood in the castle's southwestern corner. They noted a wall that runs from the room's northwestern corner northward for about 4.5 m. Directly underneath that room they examined a second chamber (internal dimensions 4.6 x 5.6 m), which they did not consider a cistern but a room that constitutes the castle's best-preserved part. The three Roman or Byzantine columns incorporated in the walls of that room and protruding into it corroborate William of Tyre's account about the use of ancient stones for the castle's construction. Fischer and Taxel mentioned Bahat's assumption that the Rectangular Room was the castle's western gate room, but they pointed to a large stone 3.3 m southeast of it that might have been the threshold of the southern gate. On the basis of their survey of the area – the specifics of which are not spelled out – they estimated the castle's dimensions at ca. 25 x 30 m.[69]

When asked to write a paper for this Festschrift in honor of Professor Adrian J. Boas, my mind wandered to the days I co-supervised the pioneering MA thesis in which he applied Neutron Activation Analysis to Western ceramics exported to the Frankish Levant,[70] a promising debut to many ventures from which our field of study has been benefiting for decades. It may be suitable, I thought, to reciprocate with an article describing the application of a new, non-invasive technique to the detection of a Frankish castle's walls. Therefore, having heard of the archaeological work of Avi Buzaglo Yoresh, founder and CEO of TEЯRALOG Innovation Ltd., I asked him to employ his optical and thermal cameras and his fluxgate magnetometers – all carried on drones and allowing for simultaneous mapping and magnetic surveying – in a search for the walls of Ibelin Castle. TEЯRALOG's procedure starts by mapping and creating an elevation model of the terrain that presents the surface elements in high resolution. The procedure's innovation is the adaptation of magnetic surveys carried out by *airborne* magnetometers – and normally serving for the detection of unexploded ordnance – to archaeology: The aim is to identify, from an altitude of 2—4 m, lineaments pointing to the existence of ancient walls.[71] As for the thermal photographs, they disclose shades where the temperature is lower than in their surroundings, rocks that stand out for being cooler than their environs and walls that become visible after having been warmed up.

---

[67] Moshe Fischer and Itamar Taxel,"Ancient Yavneh: Its History and Archaeology," *Tel Aviv. Journal of the Institute of Archaeology of Tel Aviv University* 34 (2007), 204–284.

[68] The authors were not aware of the report deposited in the IAA Archives and relied on a personal communication that does not always tally with the report.

[69] Fischer and Taxel,"Ancient Yavneh," 251–254.

[70] See Adrian J. Boas, "The Import of Western Ceramics to the Latin Kingdom of Jerusalem," *Israel Exploration Journal* 44 (1994), 102–122.

During our preliminary visit to the Tel of Yavne on 9 June 2020, I glimpsed a stretch of wall hidden behind dense vegetation, which we partially cleared later on (Figure II.1.5). At that stage I was still unaware of Bahat's report and of the

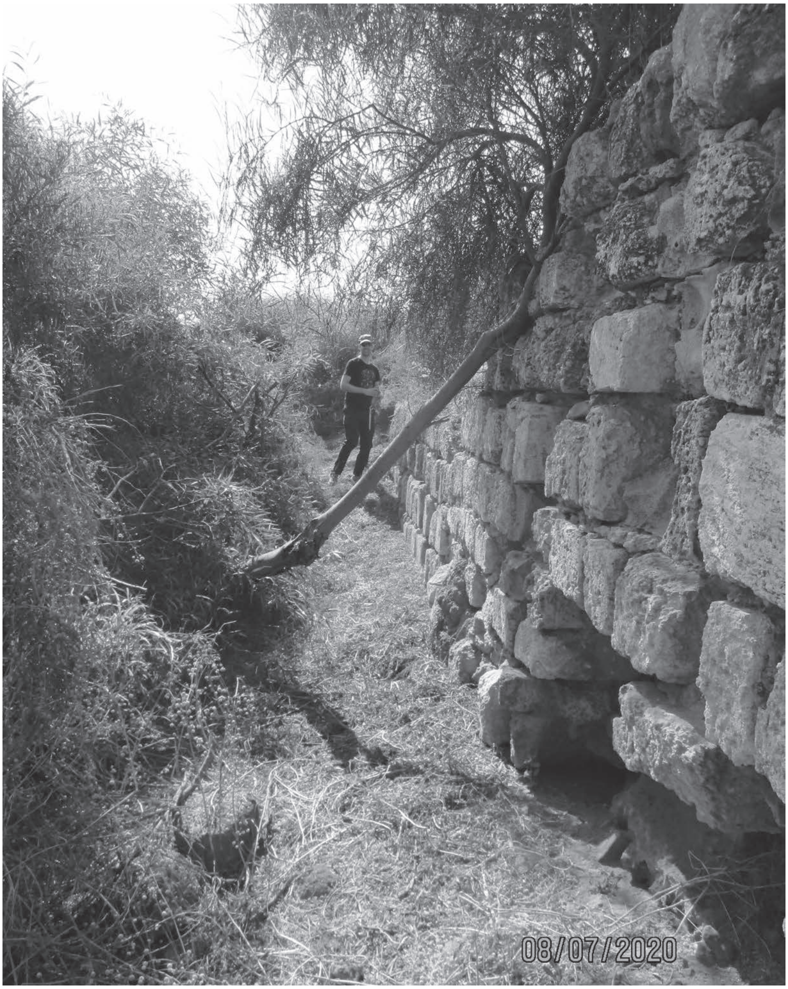


Figure II.1.5 Stretch of the northern wall, cleared 8 July 2020. © B.Z. Kedar

---

[71] For archaeological surveys done by magnetometers hand-carried or mounted on a wheeled platform, see Jörg W. E. Fassbinder, "Magnetometrie in der Archäologie," *Deutsche Geophysikalische Gesellschaft. Mitteilungen*. Sonderband 1 (2003), 41–51; idem, "Magnetometry for Archaeology," *Encyclopedia of Geoarchaeology*, ed. Allan S. Gilbert (Dordrecht, 2017), 499–514.

Bauman/Reeder and Fischer/Taxel articles. Later on, having seen the drawing in the Bahat report labeled "Northern wall: View to the south," and the photograph in the Fischer/Taxel article of the wall presented as Ibelin Castle's probable northern fortification, I realized that the vegetation-covered stretch of wall was the same that appears in the drawing and on the photograph. Moreover, having set side by side the drawing, the photograph and Husseini's three photos of 1942 labeled "Top of hill in village. Remains of fortifications," and having compared the stones appearing on them one by one, I realized that Husseini photographed the self-same northern wall. On the right-hand (northern) end of the photo one may discern the remains of what appears to have been a tower (see Figures II.1.6a–c).

On 8–9 July and 16 August 2020 the TEЯRALOG drone surveyed the Tel. The first result was a photograph of the area comprising the northern wall of the castle, the bulky vault and the Rectangular Room excavated by Bahat. The photograph (Figure II.1.7a) revealed that the northern wall and the outer (southern) wall of the Rectangular Room run almost in parallel one to another; the southern part of the castle's western wall is also visible. The same elements appear on the thermal photomosaic (Figure II.1.7b), where a southern continuation of the castle's western wall is also discernible. The aerial magnetic survey (Figure II.1.7c) allows for an approximation of the walls of the castle's eastern part. When we combine the information derived from the photograph, the photomosaic and the survey, it becomes possible to draw a tentative plan of Ibelin Castle (see lines on Figure II.1.7a). It is a somewhat irregular rectangle, whose dimensions are ca. 31 x 43 m. Plotting the castle's walls on a contour map of the area, it transpires that the location of the northern, eastern and western walls was largely dictated by the Tel's contours and led to the castle's northwest-to-southeast orientation.

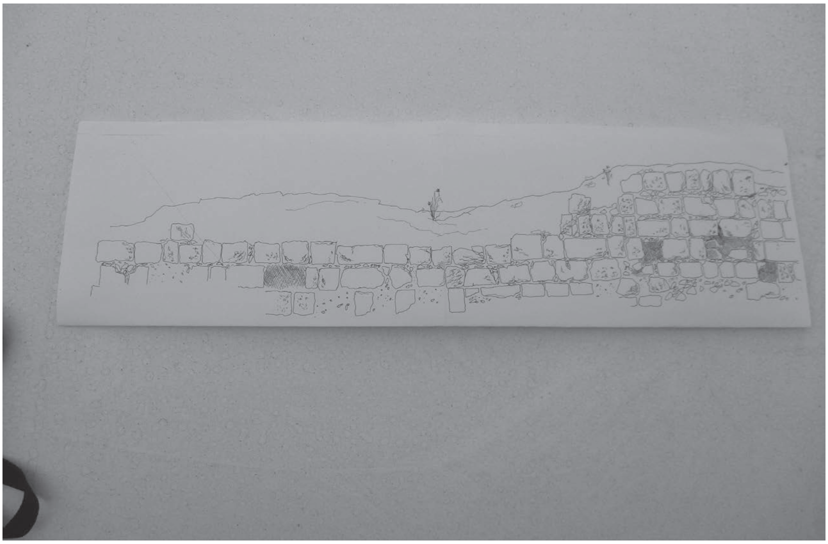


Figure II.1.6a The northern wall, drawn in 2005 by the Bahat team. IAA, The Scientific Archive. Archives. Yavne, Tel. Dan Bahat, G56/2005, Drawing 10. © D. Bahat, IAA

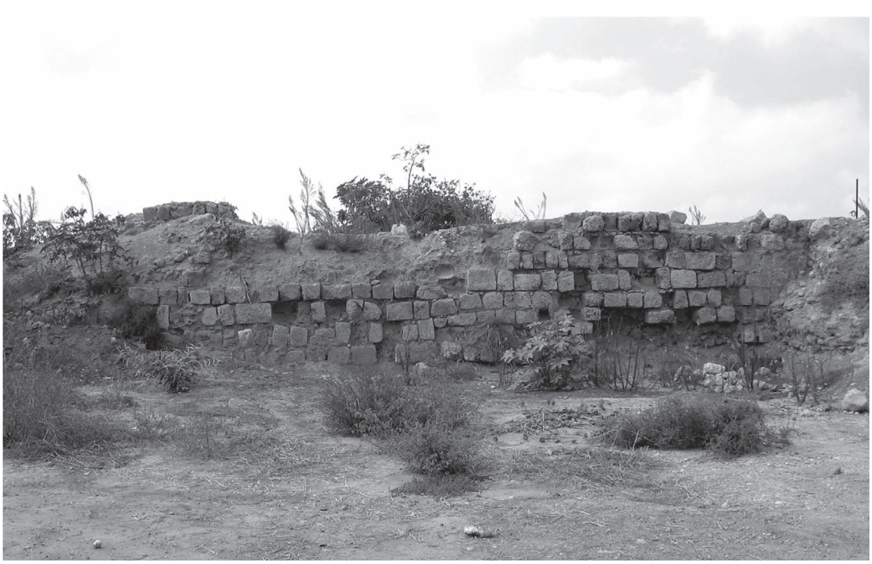


Figure II.1.6b The northern wall, 2007. Photo: Prof. Moshe Fischer, Tel Aviv University (reproduced with his kind permission). © Moshe Fischer, Tel Aviv University.

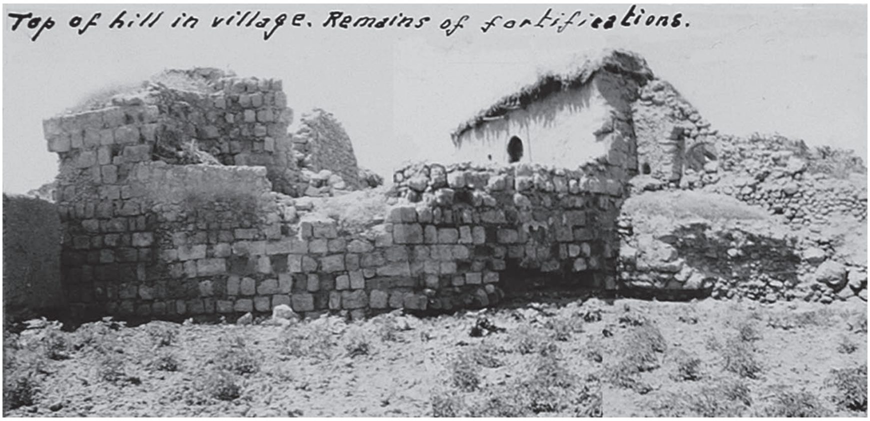

Top of hill in village. Remains of fortifications.

Figure II.1.6c The northern wall, 1942. Photos: Salem ʿAbd es-Salam Husseini. IAA. The Scientific Archive, 1919–1948. Yibna, SRF_194(45/45), photos 27.658–660. Combined by Naomi Morag. © IAA

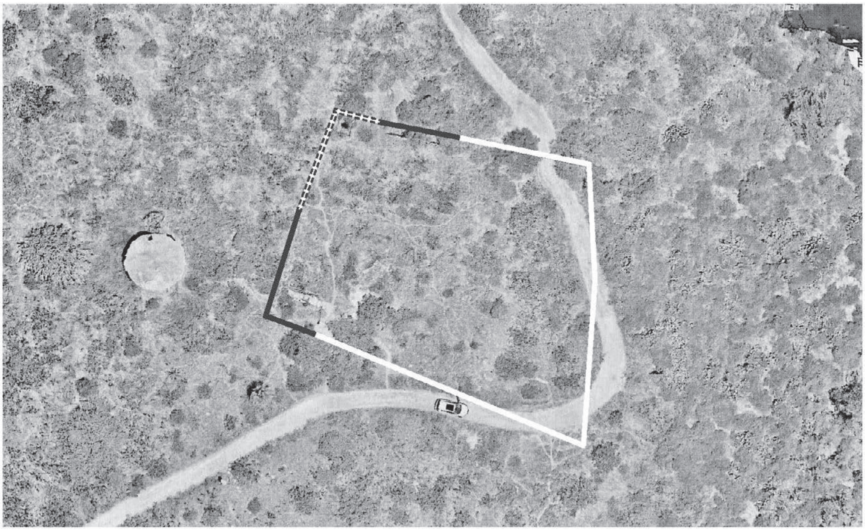


Figure II.1.7a Ibelin Castle: aerial photograph (with tentative course of walls superimposed) black – visible, broken line – hypothesized, white – based on magnetic measurements. © TEЯRALOG Innovation Ltd

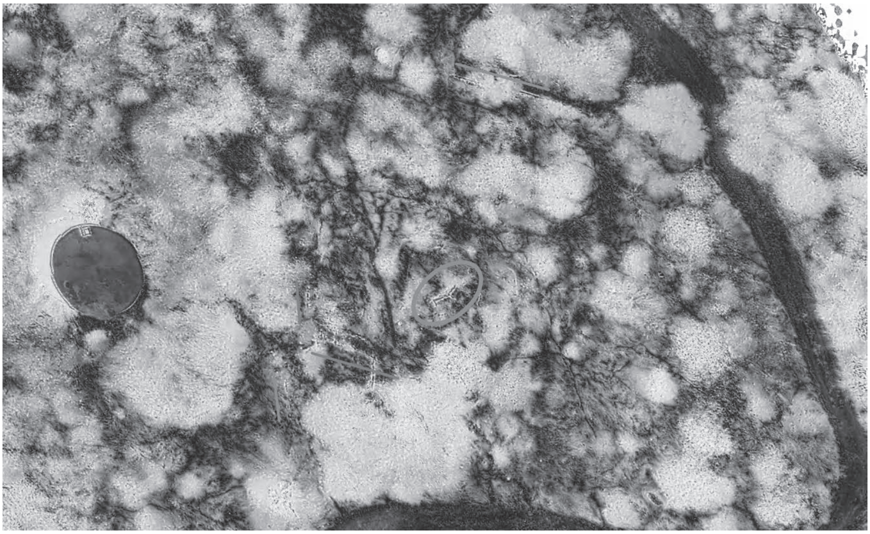


Figure II.1.7b Ibelin Castle: aerial thermal photomosaic. © TEЯRALOG Innovation Ltd

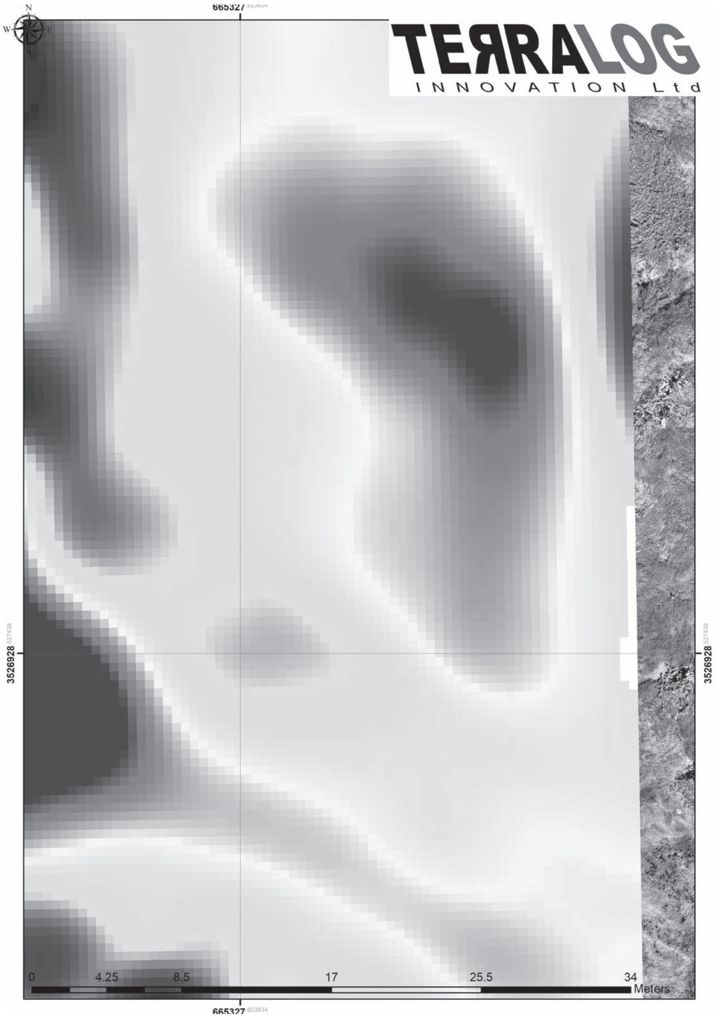


Figure II.1.7c Ibelin Castle: aerial magnetic map of the eastern part. © TEЯRALOG Innovation Ltd

How do Ibelin's approximate dimensions, 31 m x 43 m, compare with those of the two castles of the ring around Ascalon whose plans are known? The dimensions of the inner, original castle of Bethgibelin are 45 x 49 m,[72] and of the inner part of Toronum Militum – 55 x 69 m.[73] Thus, Ibelin appears to have been considerably smaller.

---

[72] See Amos Kloner and Michael Cohen, "Die Kreuzfahrerburg Beth Guvrin," in *Burgen und Städte der Kreuzzugszeit*, ed. Mathias Piana (Petersberg, 2008), 285, Figure 3.

[73] See Pringle, *Secular Buildings*, 65, Figure 34. For the relative sizes of six Frankish castles see the plans reproduced in Boas and Maeir, "The Frankish Castle of Blanche Garde," 20 (but see note 20).

And what about Ibelin's *faubourg*? Evidently, like in Darum, its church was at some distance from the castle; but was the *faubourg* fortified like that of Darum? A partial answer was offered by the Bauman-Reeder team of 2003, who identified collapsed battlements, connected by a wall, west and southwest of the church-turned-mosque. TEЯRALOG's magnetic map basically corroborates the Bauman-Reeder findings west and northwest of the minaret (Figure II.1.2) and allows also for a guesstimate of the entire course of the *faubourg*'s walls (see Figures. II.1.8–II.1.9).

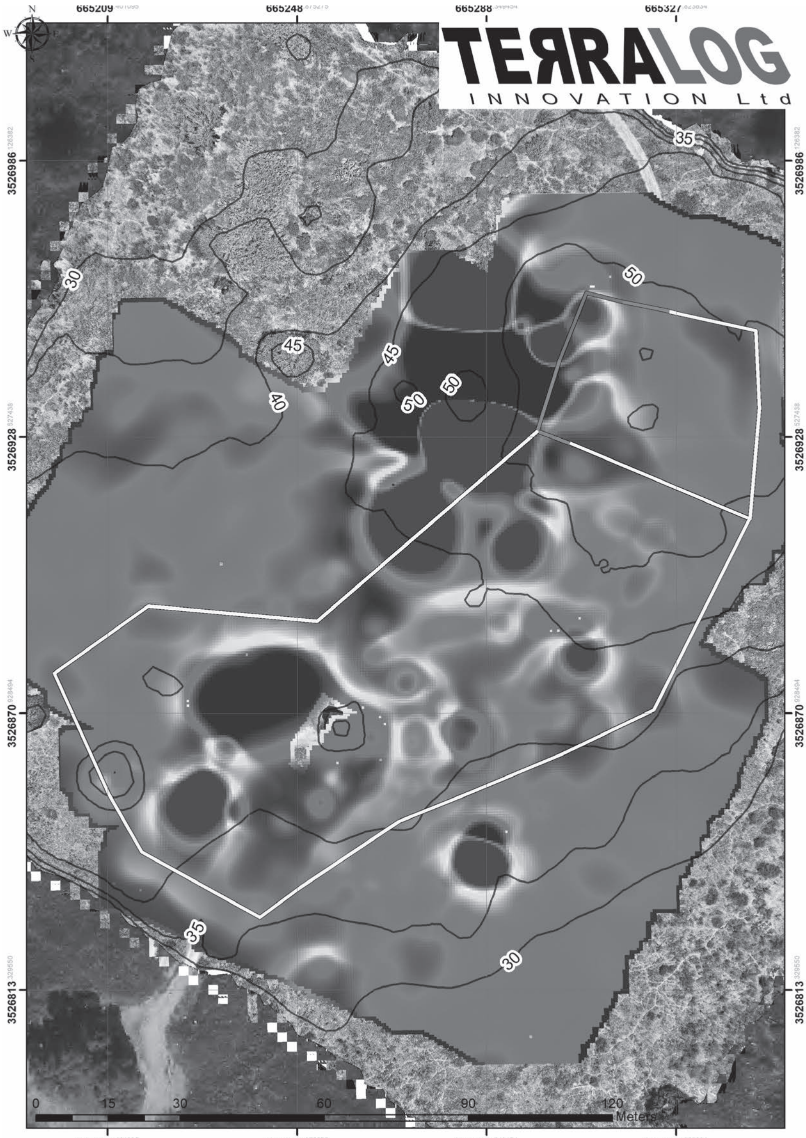

N
W
665209
665248
665288
665327
TEЯRALOG
INNOVATION Ltd
35
3526986
30
50
45
45
40
50
50
3526928
3526870
35
30
3526813
0
15
30
60
90
120
Meters

Figure II.1.8 Aerial magnetic map of the castle and *faubourg* areas. © TEЯRALOG Innovation Ltd

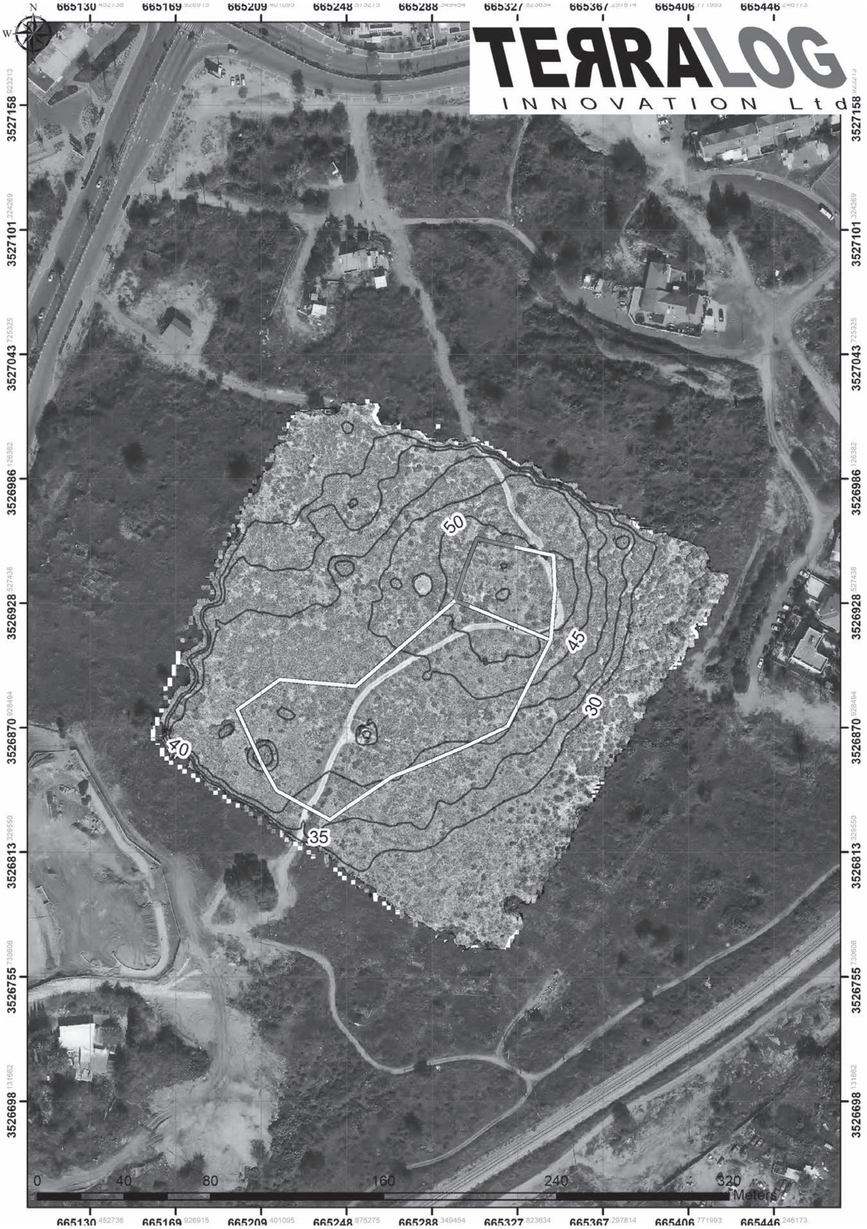

TEЯRALOG
INNOVATION Ltd
N
W
665130
665169
665209
665248
665288
665327
665367
665406
665446
3527158
3527101
3527043
3526986
3526928
3526870
3526813
3526755
3526698
50
45
40
35
30
0
40
80
160
240
320
Meters

Figure II.1.9 Ibelin: probable extent of the castle and the *faubourg*. © TEЯRALOG Innovation Ltd

Is there some independent evidence to support this conclusion that Ibelin, before its destruction in 1187, consisted of a rectangular castle on the Tel's summit and of a southwestward-extending *faubourg*, forming together a crescent-like shape? Yes, there is: it appears in the cartographic oeuvre of Pierre Jacotin, director of Napoleon Bonaparte's survey corps during his Egyptian–Palestinian campaign. The French passed through *Ebneh* on 1 March 1799 during their advance from Isdūd to Ramla,[74] which means that the representation of the village and its surroundings on Jacotin's Sheet 44 is based on observation. *Ebneh* appears there on the top of a hill with a steep eastern slope; most of the village is situated in the hill's north and east, whereas a narrow section protrudes southwestward (see Figure II.1.10). Assuming

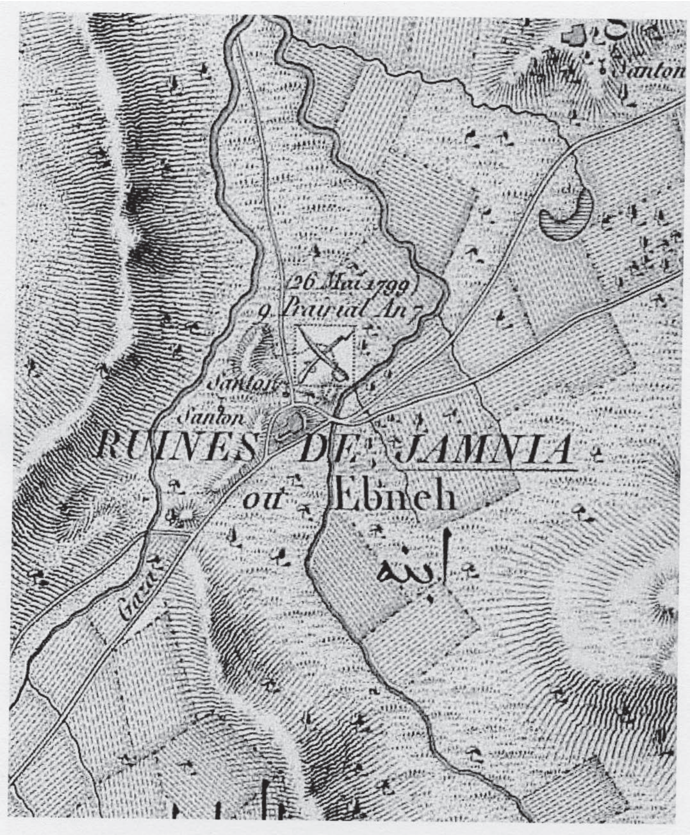


Figure II.1.10 Ebneh on Jacotin's map. *Carte topographique de l'Égypte et des plusieurs parties des pays limitrophes, levée pendant l'expédition de l'armée française par M. Jacotin* (Paris, [1818]), feuille 44: Jérusalem et Jaffa (detail).

---

[74] One of Bonaparte's officers, Detroye, noted on that day in his diary that halfway between Esdoud and Ramleh one finds Ebneh, "village situé sur la pointe d'une montagne qui a la forme d'un pain de sucre." Clément de la Jonquière, *L'Expédition d'Égypte, 1798–1801*, vol. 4 (Paris, 1907), 236. A sugar loaf of those days had a conical shape.

that the Arab village of 1799 was still largely limited to what had been the Frankish castle and *faubourg*, Jacotin's map provides an approximation of twelfth-century Ibelin – an approximation that coincides with our findings.

Thirty-two years after Bonaparte's expeditionary force passed through *Ebneh* during the advance that was to end in the debacle at Acre, the Crusade historian Poujoulat described a conversation he had with the headman ("sheikh") of the village:

> The sheikh told me that Bonaparte, on his way from Gaza to Jaffa, having stopped at *Ibna*, ordered the sheikh of the village to provide him with one hundred oxen, one hundred loads of wheat and one hundred measures of flour. The sheikh, forced to obey, humbly delivered what the French general demanded. Already the blade was raised on the heads of several oxen, and the Arab, bursting into tears at the sight of his oxen about to perish, "Sultan," he said to Bonaparte, "see what your soldiers are doing!" Touched by these tears and by these few words, Bonaparte gave the sheikh back his oxen, his wheat, his flour; he was content to receive hospitality from him: this sheikh was the father of the one who told me this anecdote. Curious meeting! I stop one evening under some huts in the ancient land of the Philistines, and there I have as my host the son of Bonaparte's host.[75]

Poujoulat was not told that, during the retreat from Acre, Bonaparte spent the night of 28/29 May 1799 at *Ebneh* and that, here as elsewhere, he applied a scorched-earth strategy. The village and its harvest were set on fire.[76]

---

[75] Michaud and Poujoulat, *Correspondance d'Orient*, 5: 373.

[76] de la Jonquière, *L'Expédition d'Égypte*, 4: 586.

2 The *Blanche Garde* fortress at Tell es-Safi/Gath

An update on recent excavation results

Aren M. Maeir[1] *and Jeffrey R. Chadwick*[2]

Introduction

Adrian Boas, our dear friend and esteemed colleague, and for whom we are thrilled to be part of the *Festschrift* in his honor, was one of the original initiators of the Tell es-Safi/Gath Archaeological Project. When Adrian and AMM were toward the end of their PhD dissertations at the Hebrew University in 1996, they jointly decided that they would like to excavate together an archaeological site that would have finds from the periods that both were interested in (Bronze/Iron Ages for AMM; Crusader/medieval for Adrian). Based on this, the very concept of the project was born.[3] Unfortunately, at a relatively early stage, after two seasons, we realized that due to the Ottoman- and Mandate-period Arab cemetery that covered most of the Crusader fortress *Blanche Garde* we would not be able to substantially excavate the summit of the tell where the fortress had been located. As a result, following the second season Adrian resigned as co-director of the project in order

---

[1] AMM – Professor of Archaeology, Bar-Ilan University (Israel); Project Director: The Tell es-Safi/Gath Archaeological Project; Co-Director: The Minerva Center for the Relations Between Israel and Aram in Biblical Times (RAIB).

[2] JRC – Jerusalem Center Professor of Archaeology and Near Eastern Studies, Brigham Young University (USA); Field Supervisor in Areas D and F: Tell es-Safi-Gath Archaeological Project; Director: American Expedition to Hebron Publication Project.

[3] For initial reports on the project see: Adrian J. Boas and Aren M. Maeir, "The Renewed Excavations at Tell es-Safi/Gath," (Hebrew) in *The Judaean Shephelah – Man, Nature and Landscape: Proceedings of the Eighteenth Annual Conference of the Martin (Szusz) Department of Land of Israel Studies*, ed. Oren Ackerman (Ramat-Gan: Bar-Ilan University, 1998), 31–37; Adrian J. Boas, Aren M. Maeir and Tammy Schneider, "Tel Zafit," (Hebrew) *Hadashot Archaeologiot* 108 (1998), 156; Aren M. Maeir and Adrian J. Boas, "Archaeology in Israel: Tell es-Safi," *American Journal of Archaeology* 102 (1998), 785–786; Aren M. Maeir and Adrian J. Boas, "Tel Zafit – 1997," (Hebrew and English) *Hadashot Archaeologiot* 110 (1999), 88, 68*. For overviews of the entire project see: Aren M. Maeir, ed. *Tell es-Safi/Gath I: Report on the 1996–2005 Seasons*, Ägypten und Altes Testament 69, Wiesbaden: Harrassowitz, 2012; Aren M. Maeir, guest ed. – The Tell eṣ-Ṣâfi/Gath Archaeological Project *Near Eastern Archaeology* 80/4 (2017) and 81/1 (2018), Boston: American Schools of Oriental Research; Aren M. Maeir and Joe Uziel, eds. *Tell es-Safi/Gath II: Excavations and Studies*, Ägypten und Altes Testament 105 (Münster: Zaphon, 2020).

DOI: 10.4324/9781003146926-3

to pursue other opportunities. Two publications on the remains of *Blanche Garde* and related finds were published from our short collaboration.[4]

In this present chapter, in honor of Adrian, we (AMM and JRC) will present new finds relating to *Blanche Garde* that have been revealed in the excavations of Area F, located just below the summit of Tell es-Safi/Gath. This treatment will update and expand what was known about the fortress since Adrian's earlier publications.

Description of excavated remains

The stratigraphic and architectural finds from Area F described next were excavated during the 2004–2014 seasons of excavations, supervised by Area F field director JRC. Area F is located in Grid 265 on the upper west side of Tell es-Safi/Gath. The area is a 20 x 40 m east–west-oriented rectangle excavated into the high, western-facing slope of the tell, on the two terraces below the remains of the Crusader fortress *Blanche Garde*, which occupy the summit of the tell (see Figure II.2.1). The 32 squares in Area F represent a systematic archaeological section, 40 m long,

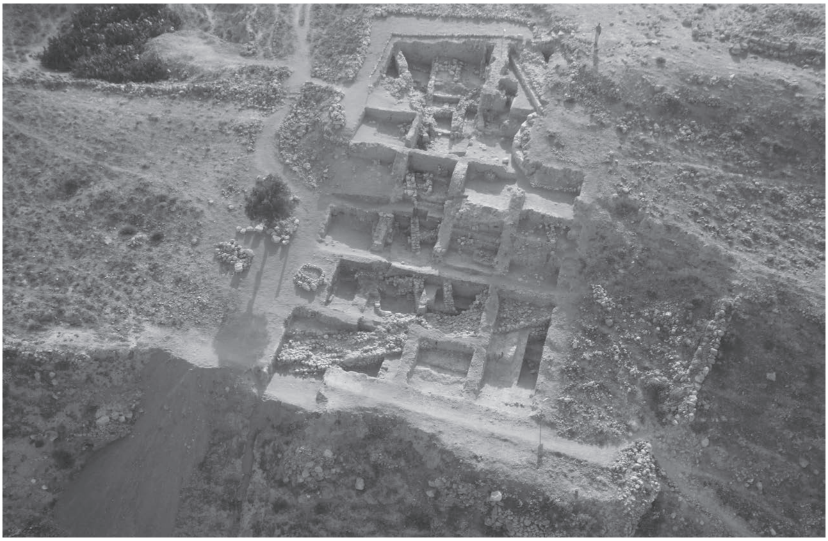


Figure II.2.1 Aerial photo of Area F and surroundings – view to the east (2013). Area F-Upper consists of the 13 open squares on the eastern (upper) terrace. The platform at the upper right is where the *Blanche Garde* fortress stood, with the wall line and pointed tower of its outer fortifications exposed by the Tell es-Safi/Gath Project. © A. Maeir and J. Chadwick

into the western face of the upper tell, revealing the complete and complex stratigraphic sequence of the site spanning from the Early Bronze Age to modern times (see Table II.2.1). Area F is divided into two sub-areas: Area F-Upper consists of 16 squares on the higher (eastern) of the two terraces, whereas Area F-Lower consists of the 16 squares on the lower (western) of the two terraces bordering the western cliffs of the tell (see Figure II.2.2). In this paper, we will focus on the Crusader-period remains from Area F-Upper.[5]

---

[4] For a description of the remains known and the historical background of *Blanche Garde* see: Adrian J. Boas and Aren M. Maeir, "The Crusader Castle Blanche Garde and Later Remains at Tell es-Safi in Light of Recent Discoveries," *Crusades* 9 (2009), 1–22; Adrian J. Boas, "Tell es-Safi/Gath in the Medieval and Modern Periods," *Tell es-Safi/Gath I: The 1996–2005 Seasons, Vol. 1*, ed. Aren M. Maeir, Ägypten und Altes Testament 69 (Wiesbaden: Harrassowitz, 2012), 153–164.

Table II.2.1 Stratigraphy of Area F.

AREA F Stratum	*AREA F Features*	*ARCHAEOLOGICAL PERIOD and Approximate Years*	*AREA A, E, D Stratum Parallel*
F1	Graves	British Mandate (1917–1948 CE)	A1, D1
F2	Graves	Ottoman (1516–1917 CE)	
F3	Graves	Mamluk (1291–1516 CE)	n/a
F4	Fortress wall, tower	Crusader (1099–1291 CE)	n/a
F5	House wall	Roman/Byzantine (63 BCE–638 CE)	n/a
F6	Room 95650 walls	Persian (586–332 BCE)	n/a
F7	Houses 75350, 105650	Iron Age IIB (late eighth century BCE)	A2
F8	House 105650, Phase 1	Iron Age IIB (mid-eighth century BCE)	
F8A	Collapse (earthquake)	Iron Age IIA/B (early eighth century BCE)	Post-A3 features, D2
F9	Walls, bone tool shop	Iron Age IIA (ninth century BCE)	A3; D3
F10	Wall components	Iron Age IIA (mid-tenth throughearly ninth century BCE)	A4; D4
F11	Room walls, surfaces	Iron Age I (late twelfth throughearly tenth century BCE)	A5, E3, D5
F12	Room walls, surfaces	Iron Age I (twelfth century BCE)	
F13	Room walls, surfaces	Late Bronze II (fourteenth through thirteenth century BCE)	E4
F14	Room walls, surfaces	Late Bronze I (sixteenth throughfifteenth century BCE)	
F15	City wall and glaçis	Middle Bronze II (seventeenth through sixteenth century BCE)	n/a
F16	City wall with outsets	Early Bronze III (ends ca. 2500 BCE)	E5
F17	Structures	Early Bronze III (1st half of 3rd millennium BCE)	E5–E8

---

[5] For a detailed description of the excavations in this area, as well as the specific excavation of the *Blanche Garde* Crusader fortress remains discussed in this paper, see Jeffrey R. Chadwick and Aren M. Maeir, "Chapter 5: The Stratigraphy and Architecture of Area F-Upper, Strata F4-F8A," *Tell es-Safi/Gath II: Excavations and Studies*, Aren M. Maeir and Joe Uziel, Ägypten und Altes Testament 105 (Münster: Zaphon, 2020).

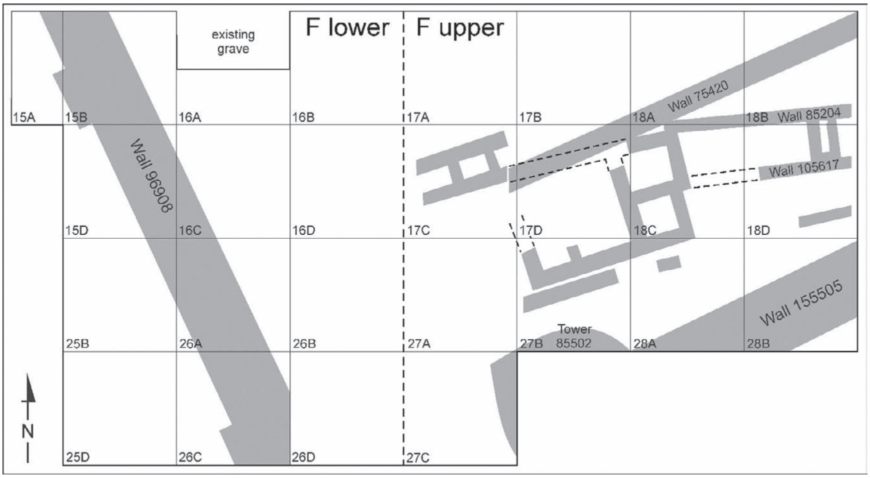

existing grave
F lower
F upper
15A
15B
16A
16B
17A
17B
18A
Wall 75420
18B
Wall 85204
Wall 96908
Wall 105617
15D
16C
16D
17C
17D
18C
18D
25B
26A
26B
27A
27B
Tower 85502
28A
28B
Wall 155505
N
25D
26C
26D
27C

Figure II.2.2 Plan of Area F, showing major features uncovered and excavated squares in Area F-Upper (right half). © A. Maeir and J. Chadwick

Area F-Upper was initially chosen for excavation because its location was presumed to be outside the line of the northern fortifications of *Blanche Garde*. It was discovered, however, that the outer fortress wall actually runs through the southern side of the area. This provided opportunities for exploration of Crusader-period remains at the same time as earlier remains (both Bronze and Iron Age) throughout the rest of the area (see Table II.2.1 for a summary of the stratigraphy in Area F).

The northwestern corner fortifications of *Blanche Garde*

During the 2005 season, the foundation structure of a large Crusader-period tower (85502), belonging to the fortress *Blanche Garde* was discovered in the southern half of Square 27B (Figure II.2.3). The outer face of the structure was rounded and consisted of three courses of unfinished, square hewn blocks of hard local *nari* stone, probably originating from quarries that were located on the northwest slope of the summit of the tell.[6] The stone blocks were each 40 cm in height and width (depth), but of lengths varying from 30 to 50 cm, bearing no margins or other type of decoration. The courses of stone were thus 40 cm in height, one upon the other, and separated by a 3 cm layer of hardened lime-cement mortar. The stones were also separated vertically by thin layers of the hardened mortar. The lowest course featured nine stones in its line along the entire south length of

---

[6] Boas, "Tell es-Safi/Gath in the Medieval and Modern Periods," and Boas and Maeir, "The Crusader Castle Blanche Garde."

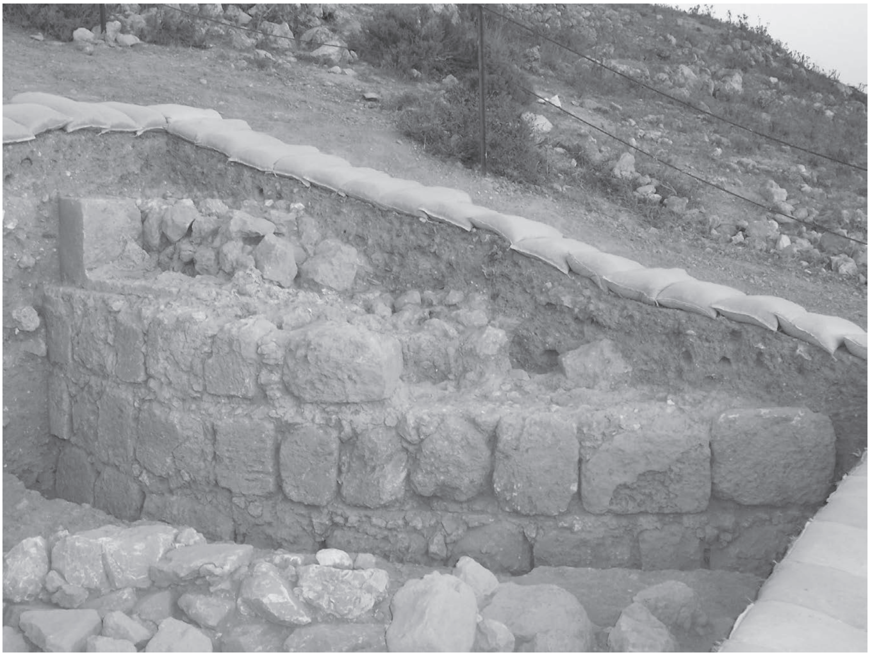


Figure II.2.3 *Blanche Garde* Tower 85502 foundation; view to southeast (2005 season). © A. Maeir and J. Chadwick

the square. The second lowest course featured 11 stones along this same length. The third course was incomplete, with only six stones found intact along the eastern side of the structure, the stones that had originally run westward having been dislodged or robbed away in antiquity. The bottom level of the lower course of blocks was not revealed in Square 27B. The decision was made not to excavate to the bottom level of the course, but rather to preserve the integrity of the structure and leave it in place permanently. The top level of the upper foundation course was 203.95 masl.

The upper level of the foundation trench (115502) for the structure was discerned at a height of 204.00 masl. The vertical line of the trench was clearly visible in the east balk section of Square 27B, at a distance of 1.5 m north of the structure (Figure II.2.4). The trench narrowed as it ran west, so that in the southwest corner of the square it was less than 30 cm wide at the level of the lowest course of the foundation structure. We attribute this difference to the fact that the tower was built at the edge of the slope of the tell. The pottery sherds in the backfill of the trench represented all periods from EB to Late Roman/Byzantine, with Iron Age II pottery predominant. The foundation trench cut through the Iron Age IIB strata of the square and into the Iron Age IIA strata, obliterating architectural remains from those periods where the Crusader structure was erected.

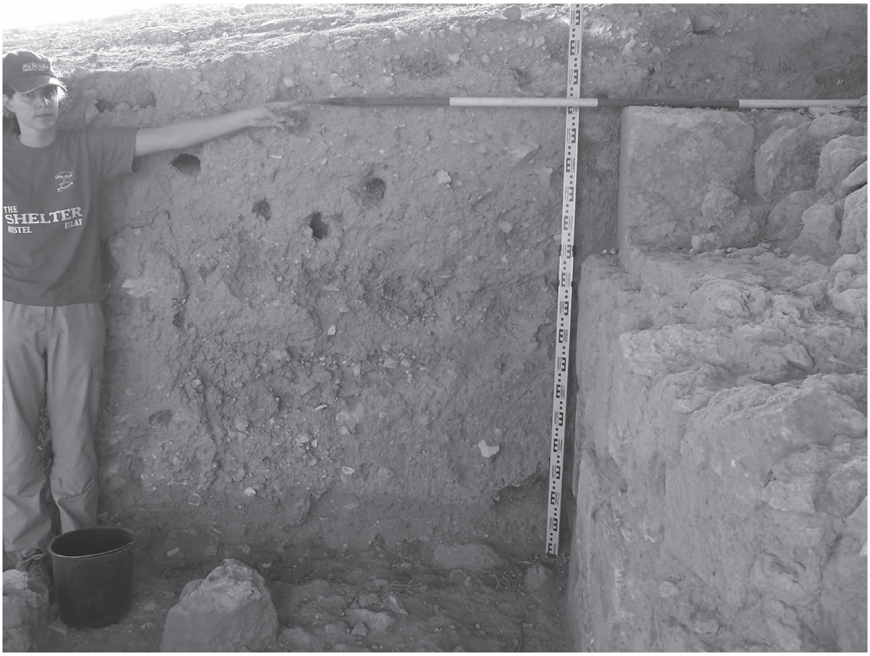


Figure II.2.4 Foundation Trench 115502 and Tower 85502 foundation; view to east. © A. Maeir and J. Chadwick

In Square 27B, a single finished limestone ashlar was discovered intact atop the upper course of the foundation structure (upper level 204.52 masl). This ashlar (see Figure II.2.3) remained from the first course of the superstructure of the tower, which rose above the foundation structure and above the ground level at the time the tower stood complete. The ashlar face measured 40 cm in height and the stone was 40 cm in depth. Subsequent work in 2012 traced the stone back into the east balk and determined that the width of its face was 50 cm.

Inside the three-course row of foundation blocks, the interior of the tower foundation consisted of smaller field stones (20–30 cm) packed densely together.

During the 2012 season, Squares 28A and 28B were opened for excavation, resulting in the discovery of the foundation of a massive Crusader-period fortress wall of *Blanche Garde* that connected to the tower in Square 27B (see discussion of the wall next). Removal of the southern part of the balk between Squares 27B and 28A exposed the full face and top of the tower ashlar described earlier. Another ashlar was partially revealed from the same course of the tower, running southeast. A higher course of two similar tower ashlars was also revealed in the balk, running southeast into Square 28A and connecting to the fortification wall. In all, four ashlars of the tower were exposed, in two courses, atop the tower foundation (Figure II.2.5 and Figure II.2.6). The upper level of the higher course of ashlars was 205.01 masl.

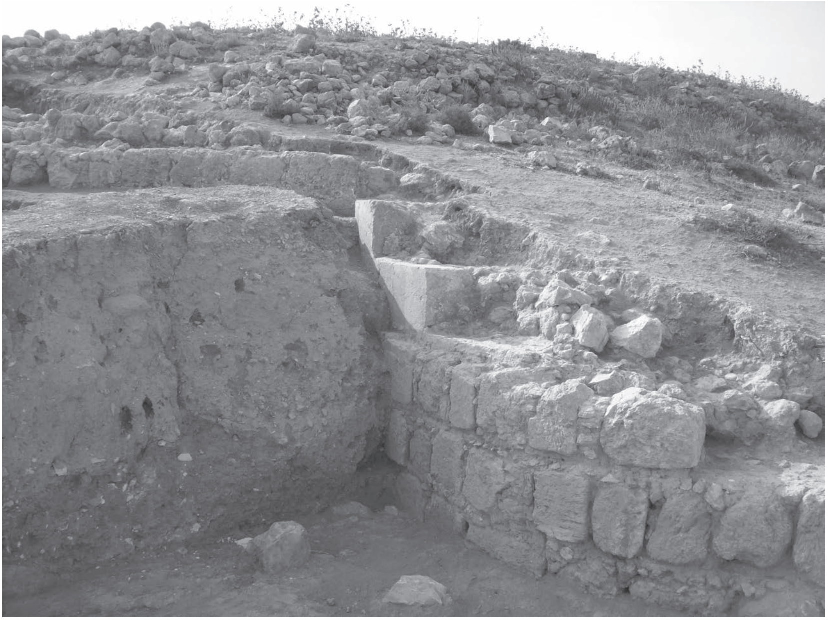


Figure II.2.5 Tower 85502 with upper ashlars exposed in 2012, joining to Fortress Wall 155505 foundation (photo center). Foundation Trench 115502 (center left) is also clearly visible (view southeast, 2012). © A. Maeir and J. Chadwick

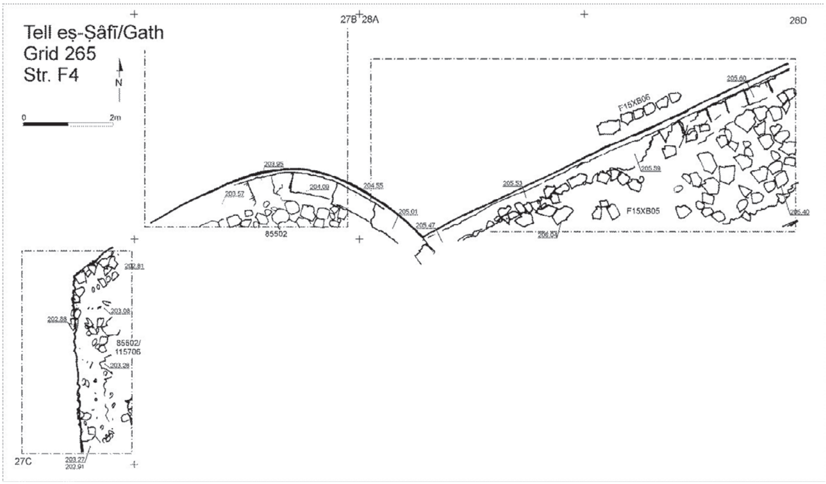

Tell eṣ-Ṣâfī/Gath
Grid 265
Str. F4
N
0
2m
27B
28A
28D
27C
203.95
203.57
204.09
204.55
205.01
205.47
85502
205.60
F15XB06
205.59
205.53
F15XB05
205.40
206.03
202.81
203.08
202.88
85502/
115706
203.28
203.27
202.91

Figure II.2.6 Plan of Stratum F4 Crusader Tower 85502 and Fortress Wall 155505 (2012). [Note: In this figure Fortress Wall 155505 is designated by a preliminary number F15X05.]. © A. Maeir and J. Chadwick

These blocks were uncut and unfinished on their interior (southern) sides, but their tops, bottoms and sides were finished flat and smooth, allowing them to fit closely together in the structure. The front exposed faces of these ashlars were very smoothly finished in an elegant manner, and were slightly convex, conforming to the roundish shape of the tower. The ashlar faces were a brilliant white in color. Blemishes in the ashlar faces were filled with white mortar and smoothed to mimic the ashlar finish. If the exterior finishing on these ashlars is indicative of how all the exposed stones of the tower superstructure appeared, then the building must have been gleaming white and quite handsome. This feature is most likely reflected in the fortress's name – *Blanche Garde*.

In 2008, Square 27C was opened with the specific goal of tracing the line of Crusader Tower 85502 on its west side. The foundation line was indeed discovered in the eastern half of this square. The foundation line, which was earlier found curving in Square 27B, came to an abrupt point in the northeast corner of Square 27C, and having rounded at that point, ran in a straight line south through the square until it began rounding very slightly back eastward as it approached the south balk of the square. This demonstrated that the shape of the tower was that of a pointed bullet. This is to say that the tower extended out from the fortification wall into which it was incorporated, but instead of maintaining a round shape, the tower's walls curved and came to a bullet point at the structure's farthest extent from the fortification wall. Utilizing the discovered lines of the structure in Squares 27B and 27C, and extrapolating the line in Square 27C into unexcavated Square 37A, the estimated width of the tower from northeast to southwest was determined to be 9.5 m (see reconstruction in Figure II.2.6).

The actual foundation line unearthed in Square 27C had been robbed of its stone blocks, and only consisted of field stones (20–30 cm) tightly and carefully wedged together to provide a footing for the missing foundation blocks (Figure II.2.7). The blocks themselves had been robbed away, with the exception of one that was found on the very south side of the square, extending into the south balk. This block, with an upper level of 203.21 masl, evidently remains from the lowest course of foundation blocks, and was equivalent in size, measurement, and elevation to the lowest course of blocks in Square 27B. The field stone footing of the foundation line had an upper level of 202.81 masl in the northwest corner of Square 27C, which was consistent with having a 40 cm tall block atop it reaching a level of 203.21 masl, as did the block in the south balk. The bottom level of the field stone footing was not sought, the decision having been made to leave the tower structure intact in perpetuity; however, it cannot have been much lower than about 202.60 masl. About 40 cm inward from the footing line of the foundation, other field stones were found piled higher, reaching an upper level of 203.28 masl and extending into the east balk. These represent the interior field stone fill of the tower foundation, as also discovered in Square 27B.

A foundation trench line was not discerned in Square 27C, as contrasted with the trench line noted in Square 27B. The mixture of sherds found in the sediment above the foundation footing line in Square 27C included all periods through the Mamluk era. At the level of the foundation footing line itself, the latest sherds

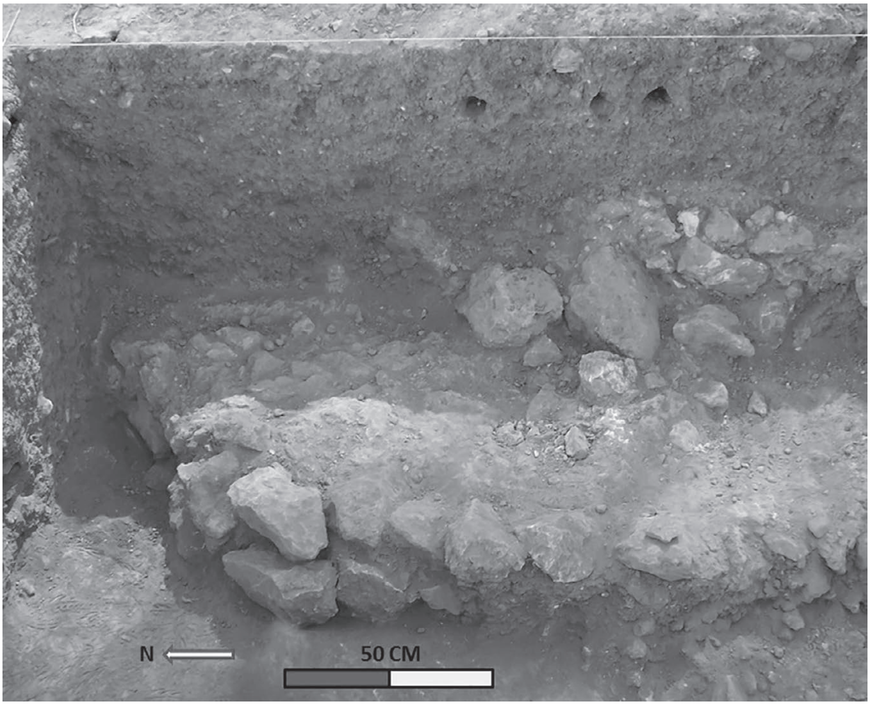


Figure II.2.7 Tower 85502, west end, the pointed tip of the field stone footing of the tower foundation structure (view east, 2008). © A. Maeir and J. Chadwick

discovered were Iron Age IIB. This suggests that the original construction of the tower pierced into Iron Age II strata. It also suggests that the area of the tower's bullet point and western line was probably very near the slope of the hill in the Crusader period, and thus no foundation trench of any depth was necessary along its western line. This explains the absence of all courses of foundation blocks along the western line, since if they were exposed on a slope during the Mamluk period they would have been easy to rob away for use in structures in the later Arab village, situated mainly to the north. It is probably for these same reasons that Foundation Trench 115502 in Square 27B narrows and tapers off to disappear as it approaches the southwest corner of that square, and that the western part of the tower's upper foundation course was also missing its blocks when excavated.

Fortress Wall 155505

The segment of the foundation of Crusader Fortress Wall 155505 discovered in Squares 28A and 28B in 2012 (mentioned earlier), to which Tower 85502 is connected, ran in a straight east-northeast line through the entire length of the two squares (Figure II.2.6). The north face of the structure was revealed along the entire 9.5 m length of the two squares. A small segment of the south face of the structure was also revealed in the south part of Square 28B, allowing the width of the wall to be measured at 3.1 m. The depth and founding level of the foundation blocks was not reached in either square, and the decision was made not to seek the bottom level of the wall, in order to avoid weakening the structure. Fifteen unfinished foundation blocks in the upper line were revealed on the north side of the wall. Plaster impressions on the tops of the stones along this line suggest that 16 finished ashlars sat atop the revealed line, as the first course of the wall's superstructure. No finished ashlars were found atop foundation blocks in the wall line itself (in contrast to Tower 85502), but several ashlars that had once been part of the wall superstructure were found in other squares of Area F in 2012 (17B, 17D baulk). The shelf that supported the finished ashlar superstructure was about 50 cm wide on both sides of the fortification wall, and the 2.1 m interior space between the foundation blocks was filled with field stones 10–30 cm in size. The missing ashlars appear to have sat recessed inward from the foundation stones' outer line by about 5 cm. This would suggest that the upper superstructure of the wall measured essentially 3 m in its overall thickness (Figure II.2.7).

The discovery of this combined Crusader-period structure, Fortress Wall 155505 and Tower 85502, had been unanticipated in 2004, when work in Area F commenced. It was thought that the limits of excavation in Area F had been set far enough north of the terrace line, which marked the probable line of the outer fortifications of *Blanche Garde*, that Crusader architecture would be avoided. This assumption was incorrect, however, and it was eventually discovered that the existing terrace line (just south of Squares 28A and 28B) represents the built-up surface level that existed inside the fortress wall (see Figure II.2.8 and Figure II.2.9).

The impressive remains of this section of the fortification wall appear to strengthen Adrian's original suggestion that the interior castle was surrounded by an outer wall – an *enceinte* – where the living quarters of the castle's garrison were located.[7]

With regard to Tower 85502, it is possible now to explain the process involved in its construction, which would be the same process for Fortress Wall 155505 itself: [1] A foundation trench was dug (about 1.5 m out from the line of the structure), after which [2] a footing layer of field stones was set into place (discerned in Square 27C). Atop this footing layer, [3] a number of courses of roughly worked foundation blocks were laid (in the case of the tower, there were three courses of foundation blocks in Square 27B – the number along the straight wall line remains to be determined). After that, [4] an interior filling of field stones was placed inside the foundation stones. Then, [5] the first courses of the superstructure of finely finished smooth ashlars were set into place, and [6] a filling of field stones was also placed behind them. Finally, [7] the foundation trench was back-filled to the level

---

[7] Boas, "Tell es-Safi/Gath in the Medieval and Modern Periods," p. 156, figure 6.2.

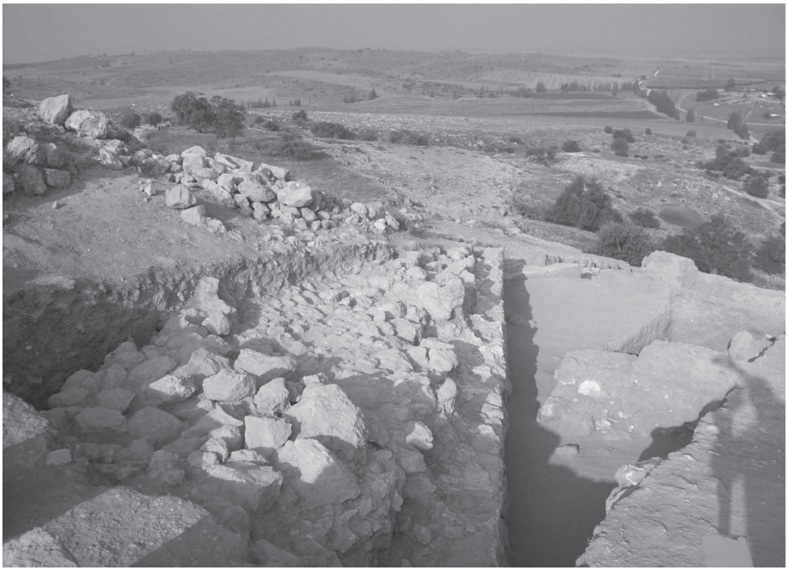


Figure II.2.8 Crusader Fortress Wall 155505 foundation (view southwest), with interior field stone fill and the shelf where finished ashlars are now missing. The curving ashlars of Tower 85502 are seen center-right. © A. Maeir and J. Chadwick

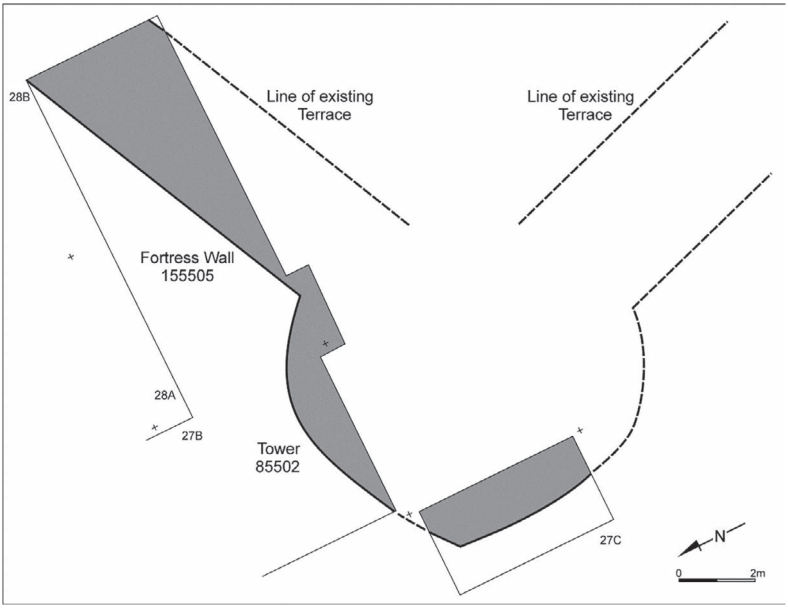

28B
Line of existing Terrace
Line of existing Terrace
Fortress Wall 155505
28A
27B
Tower 85502
27C
N
0
2m

Figure II.2.9 Reconstruction of lines of Crusader Fortress Wall 155505 and Tower 85502 (extant excavated remains shaded) and presumed wall line running southeast (2012). © A. Maeir and J. Chadwick

of the first course of smooth-faced dressed ashlars, burying the foundation courses completely and leaving only the ashlar superstructure visible above ground.

Terrace Wall 85420 and the sloped moat

During the 2004–2007 seasons, a 0.75 m wide terrace wall (85420) was excavated, which ran from northeast to southwest for 12.3 m through Squares 18B, 18A, 18C, and 17D (see Figure II.2.2). The western truncation of this wall, a 1 m segment found in Square 17C during the 2010 excavation season, made the total recovered length of the wall measure 14.3 m. The purpose of this wall was evidently to provide a revetment, which ran parallel to the Crusader Fortress Wall 155505, facilitating a sloped moat between the terrace wall and the fortress wall itself. The sloped moat will be discussed later, following the description of the terrace wall.

Terrace Wall 85420 (see Figure II.2.2, Figure II.2.10, Figure II.2.12 and Figure II.2.13) was well constructed, featuring precisely straight lines and stepping that descended from east to west with the slope of the hill along which it was built. It was apparently constructed in a foundation shelf dug into the preexisting terrace along the southwest–northeast line. Field stones of various sizes, from 20 to 40 cm, were used in its construction.

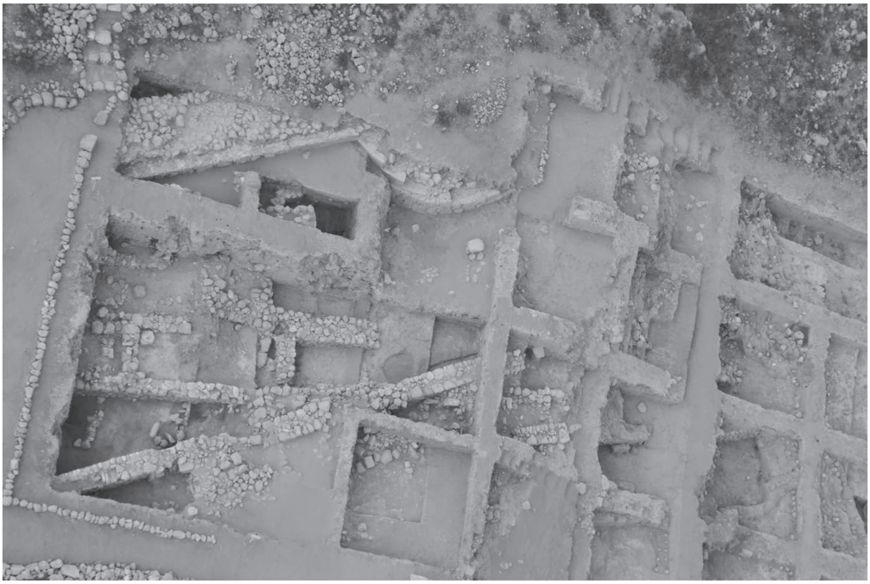


Figure II.2.10 Aerial view of Area F-Upper. Crusader Fortress Wall 155505 and Tower 85502 (upper left and upper center-left). Terrace Wall 85420 (lower center-left) is seen running parallel to the fortress wall (view south-southeast, 2012). © A. Maeir and J. Chadwick

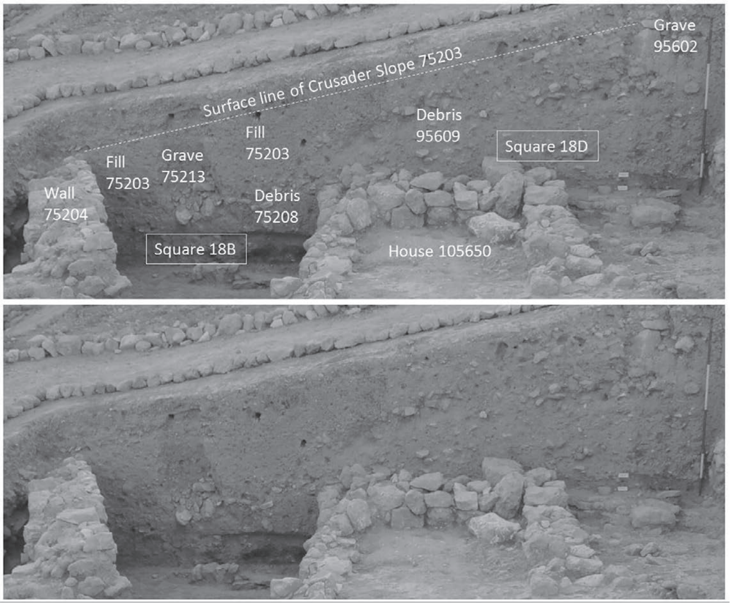


Figure II.2.11 Stratum F4 Sloped Moat 75203 in eastern section of Squares18B and 18D (above: with locus numbers, slope marked by dotted line; below: without mark-up). © A. Maeir and J. Chadwick

At its northeastern end, the upper level of the terrace wall was 204.10 masl. The wall stepped down to the southwest four times in Squares 18A and 17D, about 30–35 cm lower every 2 m in length, to a point at 202.61 masl near the west baulk of Square 17D and an upper level of 202.36 masl near the same baulk in Square 17C (a step down seems to exist inside the balk between Squares 17C and 17D). The terrace wall's founding level has not yet been determined along its entire excavated line, but in the west of Square 17D, the lower level was found at 201.80 masl. The line of a narrow foundation trench (105407) for Terrace Wall 85420 (i.e., the construction shelf mentioned earlier) was first discerned in 2007 on the west side of Square 17D, on the south side of the wall.

Foundation Trench 105407 ran parallel to the wall, about 0.3 m from its south face, demonstrating the shelving action that occurred at the time the wall was founded. In Square 18B, the northeast end of Terrace Wall 85420 was built abutting the earlier, existing Stratum F5 house wall (75204) from the Roman period so that the earlier house wall became part of the terrace wall line.[8]

---

[8] For discussion of these earlier Roman period remains see Chadwick and Maeir, "The Stratigraphy and Architecture of Area F-Upper."

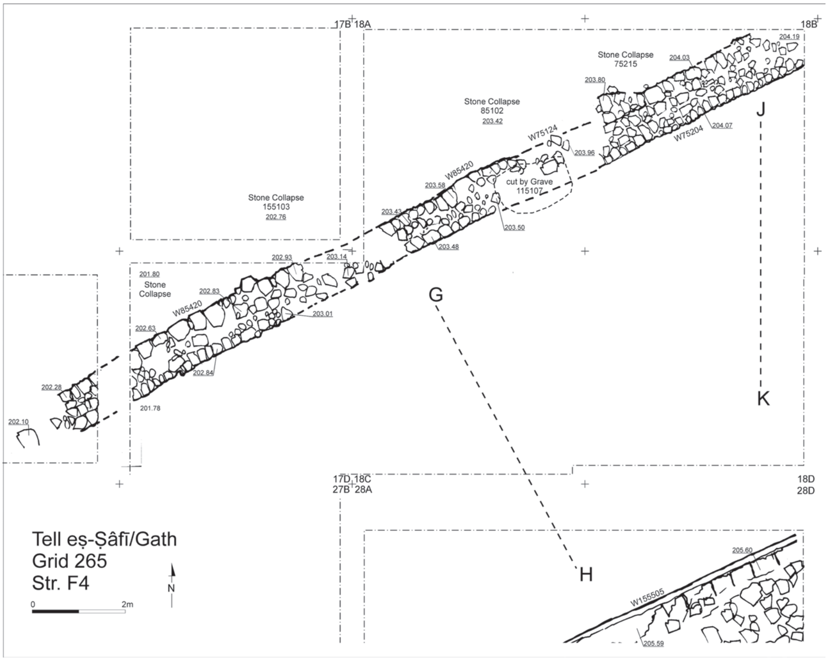

17B 18A
18B
Stone Collapse
75215
204.19
204.03
203.80
Stone Collapse
85102
203.42
W75124
W75204
204.07
J
203.96
W85420
203.58
cut by Grave
115107
Stone Collapse
155103
202.76
203.43
203.50
203.48
202.93
203.14
201.80
Stone
Collapse
202.83
W85420
203.01
G
202.63
202.84
202.28
202.10
201.78
K
17D 18C
27B 28A
18D
28D
Tell eṣ-Ṣâfī/Gath
Grid 265
Str. F4
0
2m
N
H
205.60
W155505
205.59

Figure II.2.12 Stratum F4 Crusader period Terrace Wall 85420, also showing collapse zones. The G – H line marks the section of the schematic view of structures and the *glaçis* or sloped moat (75203) in Figure II.2.13. The J – K line marks the position of the slope in the section photograph of Figure II.2.11. © A. Maeir and J. Chadwick

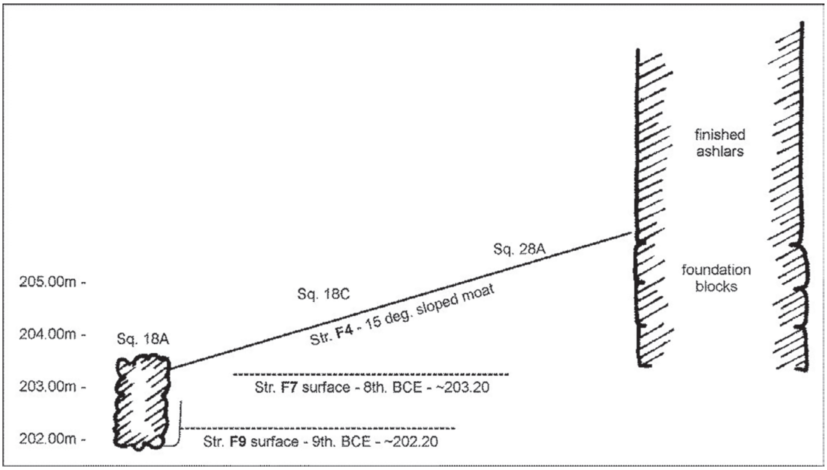

finished
ashlars
Sq. 28A
foundation
blocks
205.00m -
Sq. 18C
Str. F4 - 15 deg. sloped moat
204.00m -
Sq. 18A
203.00m -
Str. F7 surface - 8th. BCE - ~203.20
202.00m -
Str. F9 surface - 9th. BCE - ~202.20

Figure II.2.13 Schematic section (the G – H line in Figure II.2.12) of Stratum F4 Crusader-period fortifications in Area F-Upper; view to northeast. © A. Maeir and J. Chadwick

The foundation trench and shelf for Terrace Wall 85420 was cut into and through earlier strata – the Iron Age IIB surfaces of Strata F7 and F8 and the Iron Age IIA surface of Stratum F9 (level 202.20 masl in Square 17D). The construction of the wall thereby destroyed all remains of these strata along its line in the northern parts of Squares 17D and 18B, and in virtually all of Squares 17C and 18A. Thus, this terrace wall created a northern boundary beyond which no Iron Age II material from Strata F7, F8, or F9 remained intact to be excavated. But Terrace Wall 85420 and parallel Fortress Wall 155505 effectively created a narrow alley (in Squares 17D, 18A, 18B, 18C, 18D, 27 B, 28A and 28B), in which ancient remains from Iron Age II were preserved (see Figure II.2.13). This artificial alley proved to be a rich field for the Iron Age IIB finds from Strata F7 and F8.[9] Because the lowest levels of Terrace Wall 85420 only disturbed remains from Strata F7 to F9, it is expected that earlier remains from Iron Age IIA (Stratum F10) and Iron Age I will yet be reached on the north side of the terrace wall.

The sloped surface that rose up from Terrace Wall 85420 to Fortress Wall 155505 was termed Locus 75203 in Square 18B (visible in the view of the eastern section of the square, Figure II.2.11), although some of its material was excavated as 75202, before the slope was discerned. The excavated sediment of this slope contained twelfth century CE Frankish-period sherds as the latest ceramics, and numerous limestone chips, which were probably from the construction of the fortress wall. The sediment of Slope 75203 was apparently backfilled into the area between the uneven preexisting slope and the top of the terrace wall. Slope 75203 was excavated as Loci 95604 and 95605 in Square 18D, south of 18B, and as part of several loci in 18C, west of 18B, but will be referred to by its first number, 75203, in this report. The slope's function was only understood several seasons after it was excavated as various locus numbers in the squares of Area F-Upper. When the fortress stood complete, during the twelfth century CE, this sloped surface ran from the south edge of the terrace wall upward (southward) at a 15° angle to the top of the foundation course of the fortress wall (see Figure II.2.11, Figure II.2.12, and Figure II.2.13), effectively creating both a protective revetment and a defensive sloped moat or *glaçis*. This non-domestic, but deliberately created, sloped surface buried, obscured, and protected the foundation blocks of the fortress wall but did not cover or obscure the first course of smooth ashlars of the wall's superstructure, except perhaps for a few centimeters at the very bottom of the first course. The 15° slope represented a definitive obstacle to any force trying to attack the fortress wall itself. The slope served both of the traditional purposes of a moat: [1] to separate an attacking force from the fortress wall by some distance, and [2] to present, in that distance, a barrier that was difficult to cross in an attack.

---

[9] For discussion of the Iron IIB remains from Strata F7 and F8 see Jeffrey R. Chadwick and Aren M. Maeir, "Judahite Gath in the Eighth-Century BCE: Finds in Area F from the Earthquake to the Assyrians," *Near Eastern Archaeology* 81/1 (2018), 48–54. See also Chadwick and Maeir, "The Stratigraphy and Architecture of Area F-Upper."

In Square 18B, beneath Slope 75203, a steeper, uneven, debris-covered Slope 75208 was discovered and excavated, and a group of large stones atop this lower slope was removed as Locus 75207. The latest ceramics in the sediment of 75208 were also Crusader-period sherds, including some with gritty glaze finish. In Square 18D, the same sequence was found, with the steep, uneven, debris-covered Slope 95609, and Locus 95606 comprised of debris stones. Slope 75208/95609 seems to have been the steep, uneven surface just prior to the construction of the outer fortress wall. The medieval sherds within it were probably accumulated during the years of Crusader control of the hill between the construction of the inner castle and construction of the outer fortress wall. After the outer fortress wall was completed, the builders erected Terrace Wall 85420 (incorporating the earlier existing House Wall 75204) and backfilled above debris Slope 75208/95609 to create Slope 75203 (the surface of Fill 75203), using sediment containing both Crusader sherds and limestone chips from the fortress wall construction.

The fortress collapse

Excavation in Squares 18B (in 2004) and 18A (in 2005) as well as 17B and 17D (in 2012) revealed large piles of stones that had rolled northward, down the sloped moat and over the edge of Terrace Wall 85420, landing in heaps on the north side of the terrace wall. These piles were created when the superstructure of Fortress Wall 155505 collapsed, probably due to a deliberate destruction at the end of the twelfth century CE.[10] In 2004, one collapse pile was excavated as Locus 75215 in Square 18B, on the immediate north side of Wall 75204 (see Figure II.2.14), which, as mentioned earlier, had been incorporated into the line of Terrace Wall 85420. The latest sherds in the accumulation (75205) atop Collapse 75215 were from the Mamluk and Ottoman periods, but the latest sherds within Collapse 75215 itself were from the Persian period, and a high concentration of Iron Age sherds were also found in the collapsed stones of 75215. A lenticular-shaped lead ballista, 3 cm long, typical of the late Persian period, was also found with the stones of the collapse. Collapse 85102 in Square 18A was not fully excavated, but clearly seemed to be the westward extension of Collapse 75215.

In 2012, Collapse 155103 was excavated in Square 17B (see Figure II.2.15). Within the collapse were three of the smooth-finished ashlars from the superstructure of Fortress Wall 155505. As was the case in Collapse 75215 Square 18B, the latest sherds found in Collapse 115103 in Square 17B were of the Persian period, with a significant number of Iron Age II sherds and also some sherds of the EB III, MB II, and LB II. Only in the sediment layers above the collapse were there Mamluk and Ottoman sherds. The absence of sherds later than the Persian period in the collapse from the fortress wall, seems to indicate that the interior fill of

---

[10] See Boas, "Tell es-Safi/Gath in the Medieval and Modern Periods."

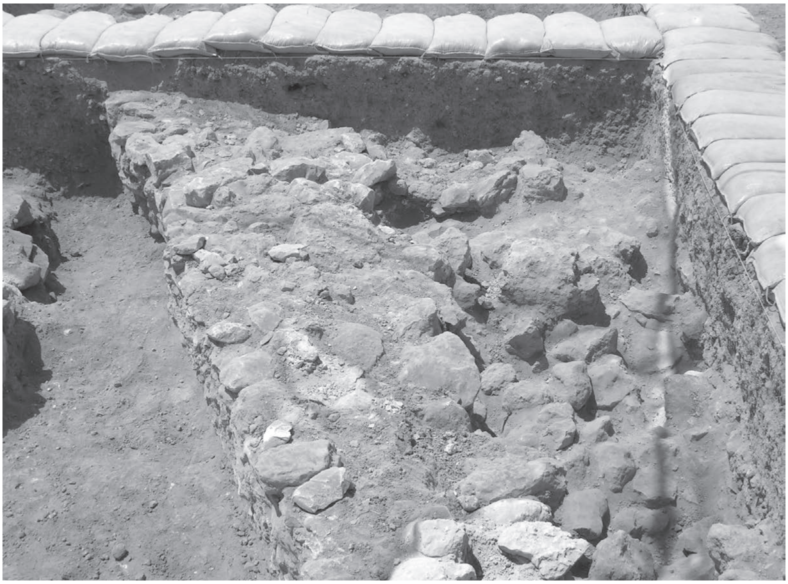


Figure II.2.14 Stone Collapse 75215 in Square 18B (right side of photo), on the north side of Wall 75204 (view west, 2004). © A. Maeir and J. Chadwick

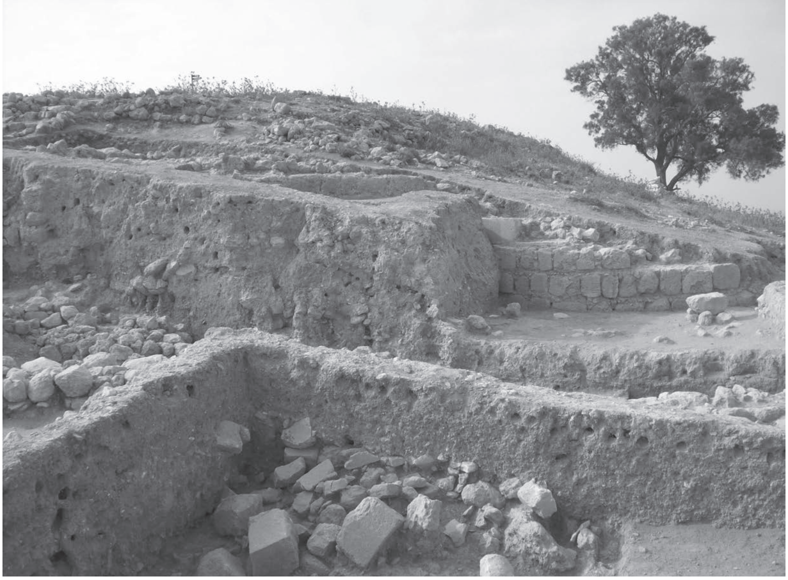


Figure II.2.15 Collapse 155103 (lower center), which tumbled down the sloped moat from Fortress Wall 155505 (upper center). Terrace Wall 85420 is behind the foreground baulk, and Tower 85502 is at upper right (view south, 2013). © A. Maeir and J. Chadwick

the fortress wall, at the time of its construction in the early twelfth century CE, was loaded with stones and sediment taken from locations on the upper tell, from contexts where Persian period, Iron Age, LB, MB II and EB III elements were present. No Crusader sherds were found within the matrix of the fortress wall fill, since Crusader ceramics would only have become widely used at the site *after* the fortifications were erected. Naturally, no Mamluk or Ottoman sherds were found within or under the collapsed material from the fortress wall. But in the initial soil layer atop the collapse Crusader sherds were present, and Mamluk and Ottoman sherds were found in abundance in subsequent soil layers that accumulated atop the collapsed material. This, of course, would indicate that the wall collapse occurred before the onset of the Mamluk period, that is, at the end of the twelfth century CE or at least prior to the mid-thirteenth century CE.

While the purpose of this article is to highlight the architectural nature of the fortress wall finds, not to present a detailed analysis of the ceramics recovered, it is important to note here that the Crusader sherds recovered were almost all from the collapsed material just described and seem to have been deposited as a result of natural debris erosion over the collapsed architectural remains in the years following the fortress's demise. We will note here, however, that of the indicative Crusader sherds recovered, a number of glazed samples were represented, including colors of dark browns, deep greens, yellows, and combinations of greens and yellows, frequently with designs of thin darker lines. Bowl sherds recovered in both green and brown were glazed only on the interior and featured a gritty finish to the glaze typical of the twelfth century CE.

In Square 17B, one of the three smoothed ashlars from the Fortress Wall 155505 superstructure was a keystone from an arch or window. Another ashlar was found in the balk between Squares 17B and 17D (protruding from the north section of 17D). That more ashlars were not found seems to indicate that village locals of post-Crusader Tell es-Safi/Gath removed many usable ashlars from the ruins of the destroyed Crusader fortress for use in their village structures. Fortress ashlars are seen in the remains of many village structures located northeast of Area F.

Summary and conclusion

Despite our initial plans to excavate substantial portions of the *Blanche Garde*, the modern cemetery remains covering most of the fortress did not enable this to occur. In fact, before opening Area F in 2004, we had thought that it would be impossible to excavate any portions of the *Blanche Garde*. Area F was originally positioned to be just to the north of what we believed were the limits of any medieval or modern remains. To our surprise, it turned out that the area in fact crossed over into the line of the fortification wall and tower, enabling the exposure of a small portion of the outer fortress line. The exposure included the northwest corner tower, a portion of the fortification wall connecting to it and running eastward, and the sloped moat and terrace-walled counterscarp just to its north. Thus, while much more archaeological information about *Blanche Garde* castle is still waiting to be

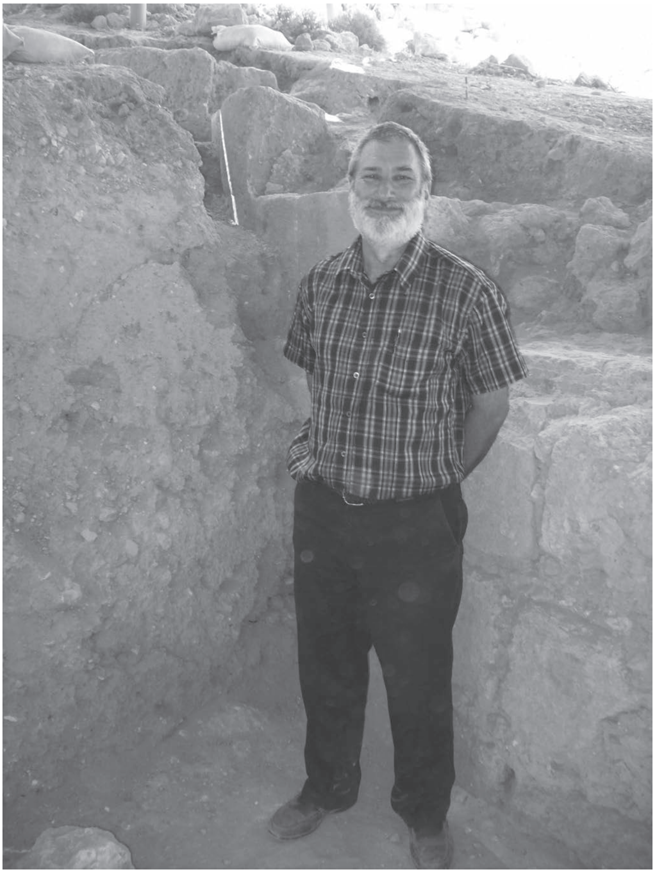


Figure II.2.16 Adrian Boas standing in front of the Crusader tower during a visit to the Tell es-Safi/Gath excavations in 2012. © A. Maeir and J. Chadwick

revealed, perhaps sometime in the future, we do hope that this small glimpse of some of the remains of this castle limits will provide a few more details on the *Blanche Garde*, and on the interesting historical events that it represents, adding to that which the honoree, Adrian Boas (Figure II.2.16), has already presented.[11]

---

[11] See Boas and Maeir, "Tell es-Safi/Gath in the Medieval and Modern Periods."

3 Keeping the Hydra in its cave

Viewshed analysis and the Frankish blockade of Fāṭimid Ascalon (1132–1153)

Rafael Y. Lewis and Michal Birkenfeld

Introduction

The final battle of the First Crusade took place on the fields to the north of Ascalon[1] (12 August 1099). Even though this event ended with a conclusive Frankish victory over the Fāṭimid forces, the city itself was not captured and consequently became the Fāṭimid’s northern outpost for the next 54 years.[2] The Muslim city, located

---

[1] The place name “Ascalon” is the more common title (in academic publications dealing with the Latin Kingdom of Jerusalem) of the ancient site. The place name “Ashkelon” is used when referring to the archaeological tell and the modern city; and is also how it appears in the official name of the city’s academic college with which the first author (Lewis) is affiliated. This paper is dedicated with great admiration to Professor Adrian J. Boas. Professor Boas was the principal supervisor of the doctoral dissertation by the first author of this paper, who is also one of the editors of this publication, and thanks are extended to him for his continued mentorship and friendship.

[2] WT, *Chronicon*, ed. Robert B. C. Huygens, with Hans E. Mayer and Gerhard Rösch, CCCM 63–63A (Turnhout, 1986), IX.12, 434–436; Albert of Aachen, *Historia Ierosolimitana. History of the Journey to Jerusalem*, ed. and trans. Susan B. Edgington (Oxford, 2007), 463; Ibn al- Qalanisi, *The Damascus Chronicle of the Crusades*, trans. Hamilton Alexander Rosskeen Gibb (London, 1932), 48; Ibn al- Athīr, *The Chronicle of Ibn al- Athīr for the Crusading Period. From al- Kāmilf ī’l- ta’rīkh Part 1*, trans. Donald Sidney Richards (Aldershot, 2006), 22; Fulcher of Chartres, *A History of the Expedition to Jerusalem 1095–1127*, trans. Frances Rita Ryan (Knoxville, 1969), 125–128; Christopher Tyerman, *Chronicles of the First Crusade 1096–1099* (London, 2012), 338–340, 342–348; Raymond Charles Smail, *Crusading Warfare, 1097–1193* (Cambridge, 1995), 174–175; Hans Eberhard Mayer, *The Crusades* (Oxford, 1972), 62; Joshua Prawer, *Histoire du Royaume de J’rusalem, Tome I* (Paris, 1969), 252–253; Steven Runciman, *A History of the Crusades. Volume I, The First Crusade and the Foundation of the Kingdom of Jerusalem* (Cambridge, 1951); Steven Runciman, *A History of the Crusades. Volume II, the Kingdom of Jerusalem and the Frankish East 1100–1187* (Cambridge, 1952), 116, 296; Michael Brett, “The Battles of Ramla (1099–1105),” in U. Vermeulen and D. De Smet (eds), *Egypt and Syria in the Fāṭimid, Ayyubid and Mamluk Eras* (Leuven, 1995), 17; Jean Richards, *The Crusades, c. 1071 – c. 1291* (Cambridge, 1999), 68; Adrian J. Boas, “Tell es-Safi/Gath in the Medieval and Modern Periods,” in *Tell es-Safi/Gath I: The 1996–2005 Seasons*, ed. Aren M. Naeir, vol. 1 (München, 2012), 153; Rafael Y. Lewis, “Ascalon, a Landscape of Conflicts: Some Landscape Archaeology Perspectives on Conflicts from the Days of the Latin Kingdom of Jerusalem,” in *Crusading and Archaeology: Some Archaeological Approaches to the Crusades (Crusades – Subsidia 14)*, eds. Vardit R. Shotten-Hallel and Rosie Weetch (Abingdon, 2020), 345–368.

DOI: 10.4324/9781003146926-4

within a two to three day marching distance from Jerusalem (65 km to the north-east) and Jaffa (63 km to the north), became the place from which raids and skirmishes against the Latin Kingdom of Jerusalem were launched and posed a constant threat to the kingdom's sovereignty.[3] William of Tyre described this threat from the Fāṭimid city and its citizens as a Hydra,[4] growing stronger as the city gained increasing strength through the death of its citizens (as the loss of one of the Hydra's heads would grow two others).[5] In 1132, as part of his defence policy, Fulk, King of Jerusalem, initiated a building and settling operations on the kingdom's south-western frontier, aimed to be prepared to the enemy's forays and on the other hand, make frequent attacks upon Ascalon.[6] A series of fortresses and settlements were constructed, enclosing the city from the north through the east and to the south (Figure II.3.1). After Fulk's death in 1143, Queen Melisende and Baldwin III continued this mission, but failed to "slay" "the "Hydra" until Baldwin's men finally took Ascalon (19 August 1153) after a seven-month-long siege.[7] This sequence of events rases the possibility that the actions taken here where part of a well-thought strategic plan of weakening the city and its threat through its seclusion. A possibility which must be tested. In order to test this theory (in this chapter), we seek to visualize Ascalon's isolation via a viewshed analysis, presenting the visibility of Frankish posts in the direction of Ascalon and vice versa. We provide in this way a graphic representation of the nature of the city's isolation, indicating the possible gaps in the conceivable blockade and illustrating the strategic location and communication system between the different Frankish posts; and perhaps even pointing out the development of this operation and its chronological stages.

---

[3] WT, XVII, 21–30, 789–805; Denys Pringle, "The Walls of Ascalon in the Byzantine, Early Islamic and Crusader Periods. A Preliminary Report on current Research," in *Guerre et paix dans le Proche-Orient mʾdiʾval (x^{e} – xv^{e} siècle)*, eds. Mathieu Eychenne, Stʾphane Pradines and Abbès Zouache (Cairo, 2019), 454–455; Piers Paul Read, *The Templars* (London, 2001), 137–138.

[4] Also known as the Lernaean Hydra, the many-headed water-snake of the Lernaean Lake, slain by Hercules. Hesiod, *Theogony*, trans. H. G. Evelyn-White (London and New York, 1914), II 306–332; WT, XIV, 22, 660.

[5] WT, XIV, 22, 660.

[6] For Ibelin, see WT, XV, 24, 706–707; for Blanche Garde WT, XV, 25, 707–708; for Gaza, WT, XVII, 12, 775–777;Denys Pringle, "The Survey of the Walls of Ashkelon," in *Ashkelon 8: The Islamic and Crusader Periods*, ed. Tracy Hoffman (University Park, PA, 2019), 105; Joshua Prawer, "Ascalon and the Ascalon Strip in Crusader Politics," *Eretz Israel* 4 (1956), 231–248 (Hebrew); Michael Ehrlich, "The Lost Castle of Count Rodrigo Gonzalez," in *Anuario de Estudios Medievales* 45/2 (2015), 783–801; Steven Runciman gives a different chronology for the construction of the fortresses, placing Ibelin first, see Runciman, *A History*, vol. II, 229. 45/2 (2015), 785; Ronnie Ellenblum, *Crusader Castles and Modern Histories* (Cambridge, 2007), 113; Adrian Boas, "Three Stages in the Evolution of Rural Settlement," in *Laudem Hierosolymitani, Studies in Crusades and Medieval Culture in Honour of Benjamin Z. Kedar (Crusades Subsidia 1)*, eds. Iris Shagrir, Ronnie Ellenblum and Jonathan Rily-Smith (Aldershot, 2007), 84.

[7] WT, 21, 789–790; Sigebertus, *Germblacensis Chronica*, ed. D. I. C. Bethmann, MGH SS VI (Hannover, 1844), 402; Prawer, *Histoire*, 408–409; Pringle, "The Walls of," 453; Runciman, *A History*, vol. II, 338–340; Auctarium, *Monumenta*, vol. 6, 401–402.

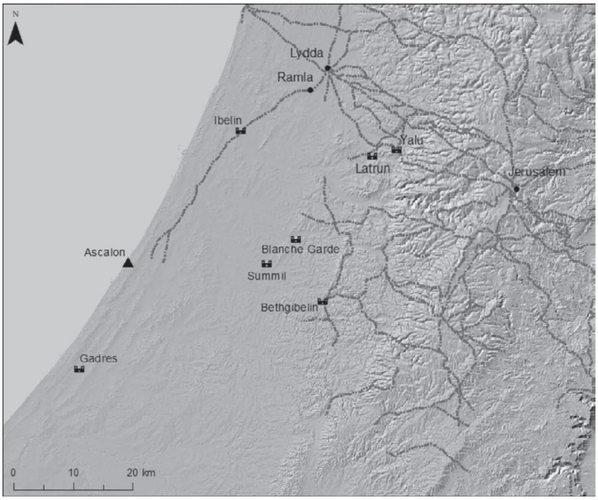


Figure II.3.1 Location of main fortresses, settlements and ancient road systems. © M. Birkenfeld

Fortification of the kingdom's south-western frontier

In 1132 Fulk of Anjou, King of Jerusalem, realizing the south-western frontier of his kingdom was under constant threat from Ascalon, launched a fortification project in which those strongholds, ringing the city, were to allow better security, intelligence on enemy movements and be a platform for offensive actions against the Muslim city. The castle at Yalu (Castellum Arnaldi), located at the entrance to one of the mountain passes to the Holy City, which was rebuilt in 1132–1133, can be viewed as the opening cord of this campaign.[8] The castle of Bethgibelin (Beit Gibelin/Beth Guvrin), and an accompanying settlement located 33 km to the east of Ascalon and built over the ruins of the Roman city of Eleutheropolis, was to follow.[9] Latrun (Le Toron des Chevaliers) was built in 1137 for the protection of travellers on the Jaffa-Jerusalem road.[10] The fortress of Ibelin, located 29.6 km north-east of the Fāṭimid stronghold, was next to be built, in 1141.[11] A year later, the fortress of Blanche Garde (Blanca Guarda), located 28.5 km east of Ascalon, joined the blockade.[12] Even after Fulk's death in 1143, the project continued by Queen Melisende with the construction of the fortress of Gadres (Gaza) between 1149 and 1150, located 19 km to the south of Ascalon.[13] From this point onward the blockade of Ascalon was considered complete and the city's connection with Egypt was possible only by sea.[14] Ehrlich suggests, in contrast to the consensus, that the castle called Toron, built in 1137 by Count Rodrigo Gonzalez of Lara and granted to the Templar Order, is actually the fortress in Summil, located 23 km to the east of Ascalon,[15] and not in Latrun, as most scholars contend.[16] We will not go into the details of Ehrlich's suggestion here, but will include Summil in our viewshed analysis, as it provides us with some additional information regarding the part this fortress played in the blockade.

---

[8] WT, XIV, 8, 639–640; Meron Benvenisti, *The Crusaders in the Holy Land* (Jerusalem, 1976), 314–317; Denys Pringle, "Templar Castles between Jaffa and Jerusalem," in *Churches, Castles and Landscape in the Frankish East*, ed. Denys Pringle (Burlington, 2013), 103–108.

[9] NIG- New Israeli Grid; AMSL- Height Above Mean Sea Level; 100°, 190063/612938 NIG at 254 AMSL; WT, XIV 22, 659–661; *Cart. Hosp*., vol. I, n. 399, 272–273; Denys Pringle, *The Churches of the Crusader Kingdom of Jerusalem: A Corpus*, vol. 1 A-K (Cambridge, 1993), 95;Bethgibelin was built in 1134 and it passed to the Hospitallers in 1136, Adrian J. Boas, *Archaeology of the Military Orders* (London and New York, 2006), 230.

[10] On the Building of Toron see *Chronica Adefonsis imperatoris* 1.48, in *Chronica Hispana saeculi XII*, eds. Emma Falque, Juan Gil and Antonio Maya, CCCM 71 (Turnhout, 1990), 172. On Yalu

A short survey of the fortresses

The following short survey of the fortresses will explain the main characteristics of each one in relation to its location. Although excavations have been conducted at three of the sites (Ascalon, Blanche Garde and Bethgibelin), only Bethgibelin has been subjected to a full-scale excavation, that remains yet unpublished. Consequently, in our reconstruction we depend on surveys of the sites, on observations of surface remains and on historical accounts, such as that by William of Tyre.

Ascalon

Ancient Ascalon (Figure II.3.2) is situated on the seashore in the southern part of the coastal plain that stretches inland from the Mediterranean Sea in present-day Israel. The ancient city features two land elevations (archaeological tells) encircled by a rampart built in the Middle Bronze Age (ca. 1800 BCE).[17] The rampart, composed of cemented kurkar (fossilized sandstone) ridges, bow-shaped whose string

---

see: WT, XIV, 8, 639–640; Meron Benvenisti, *The Crusaders in the Holy Land* (Jerusalem, 1976), 314–317; Denys Pringle, "Templar Castles between Jaffa and Jerusalem," in *Churches, Castles and Landscape in the Frankish East*, ed. Denys Pringle (Burlington, 2013), 103–108.

[11] 39°,176192/641576 NIG at 57 AMSL; WT, XV, 24, 706–707.

[12] 81°, 185553/623344 NIG at 214 AMSL;WT, XV, 25, 707–709.

[13] 203°,149185/601575NIG at approximately 46 AMSL; WT, XVII, 12, 775–777.

[14] WT, XVII, 12, 775–776; Prawer, "Ascalon and," 239; Pringle, *The Churches*, 208.

[15] 88°, 180632/619275 NIG at 140 AMSL; Ehrlich, "The Lost Castle," 783–801.

[16] Adrian J. Boas, "Latrun," in *Crusades* 4 (2005), 159–160; Boas, *Archaeology of*, 111, 115, 255–256; Denys Pringle, "Templar Castles between Jaffa and Jerusalem," in *The Military Orders*, ed. Helen Nicholson, vol. II (Aldershot, 1998), 89–110; Prawer, "Ascalon and," 237–239; Joshua Prawer, *Crusader Institutions* (Oxford, 1980), 105–108.

[17] Lawrence E. Stager and David Schloen, "Introduction: Ashkelon and its Inhabitants," in *Ashkelon 1*, eds. Lawrence E. Stager, David Schlone and Daniel M. Masters (Winona Lake, 2008), 3.

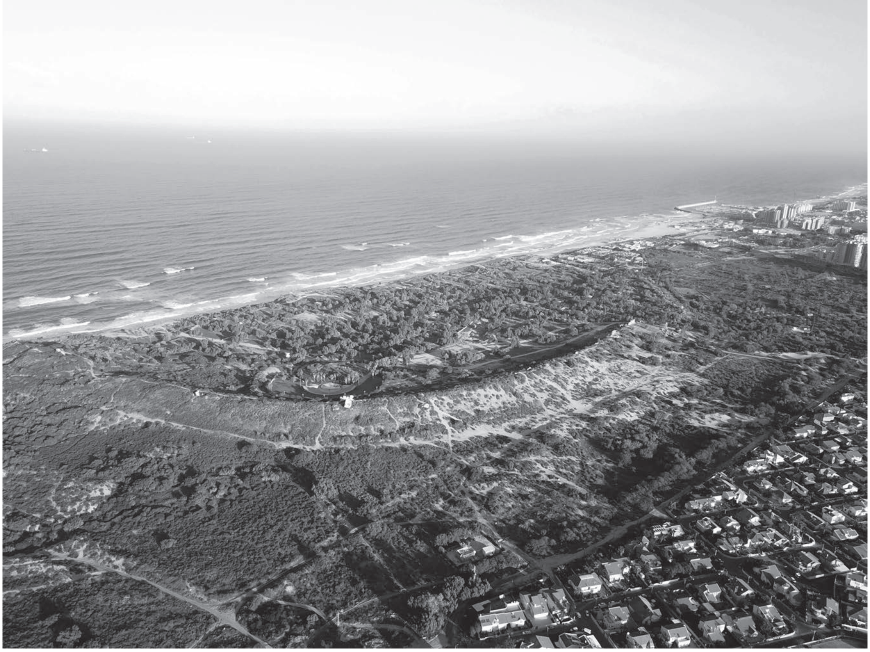


Figure II.3.2 An oblique aerial view of Ascalon from the south-east. © R. Y. Lewis

"stretches" along the western shoreline.[18] The Canaanite city rampart formed the basis for the later fortifications, including those built by the Philistines in the twelfth century BCE. The rampart continued to undergo modifications right up to the city's final abandonment two millennia later. Freshwater from the east, borne along the aquifer of a prehistoric river, provided the inhabitants of the city with continuous access to water from wells dug into the ground.[19] Kedar and Mook have shown that the Fāṭimid fortifications of the city, described at length by William of Tyre,[20] comprised a system of walls and fortifications that underwent changes and adaptations throughout the Roman and Late Byzantine periods.[21] Denys Pringle surveyed the walls as part of the Leon Levy Expedition to Ashkelon (Ascalon) in the mid-1980s. The excavations he conducted together with Hannah

---

[18] Stager and Schloen, "Introduction," 3; The total length of the city fortifications is 2.8 km, of which 1.8 km comprise the bow-shaped rampart and 1 km is the length of the western shoreline.

[19] Stager and Schloen, "Introduction," 3; Egon H. E. Lass, "Water Wells," in *Ashkelon 1*, eds. Lawrence E. Stager, David Schlone and Daniel M. Masters (Winona Lake, 2008), 105–130.

[20] WT, XVII, 22, 791.

[21] Benjamin Z. Kedar and Willem G. Mook, "Radiocarbon Dating of Mortar from the City- Wall of Ascalon," *Israel Exploration Journal* 2/8 (1978), 173–176.

Buckingham in 2014, revealed seven different phases of the fortification system in one of the towers located in the north-eastern part of the rampart (the Snake Tower).[22] During the Fāṭimid and Frankish rule of Ascalon, the city had four main gates: the Jaffa Gate to the north; the Gaza Gate to the south; the Sea Gate on the coastline; and the central and most important gate, the Jerusalem Gate, built on the eastern side of the city's rampart. The latter consisted of a double fortification system that protruded from the city wall. The impressive remains of this gate can still be seen today.[23] East of the gate the remains of the siege rampart (probably from 1187) can be seen. The rampart played a significant part in the development of the area to its north, since it blocked the shifting of sand northwards, enabling agriculture in the trough to its north.[24] The highly impressive remains of the Jerusalem Gate have survived at one point to a height of 7.5 m (with a base 2.9 m wide).[25] The walls, built on the Canaanite embankment surrounding the city, vary in their (current) preserved height and width.[26] The wall immediately to the west of the Jerusalem Gate complex has survived to a height of 4.8 m and a 1.6 m wide base. The remains of the walls immediately to the east of the estimated location of the Gaza Gate are between 2.2 m and 1.6 m wide. With no foundation trench and with a width of only 1.6 m at the base, it seems that the walls of the city were no higher than 8 m in the eastern part of the Jerusalem Gate. This implies that the walls of Ascalon, erected on top of the raised mudbrick rampart, were just as high as the Canaanite mudbrick city walls that predated them by two millennia.[27] The massive complex of the Jerusalem Gate and the Canaanite embankment dominating the trough at its feet must have compensated for the relatively low height of the city walls themselves. Nevertheless, in the caseof Ascalon we will mark the observation height for our viewshed analysis (see later) as 10 m above AMSL, as a compromise between Pringle's assessment (12 m) and our own observation (7.5 m) of the best-preserved parts of the city's fortifications. Three observation points will be considered, representing the three city land gates, even though only the remains of the Jerusalem gate can still be seen today, and trial excavations carried out where the Gaza Gate was believed to have been located have revealed no evidence of it.[28]

---

[22] For a detailed study on Ascalon's walls, see Pringle, "The Survey," 2019; for an earlier study on the walls see Denys Pringle and Hannah Buckingham, "The Walls of Medieval Ascalon 2014,"*Palestine Exploration Quarterly* 143/3 (2016), 211–217; Pringle, "The Walls," 459–461; Denys Pringle, King Richard I and the Walls of Ascalon, *Variorum Collected Studies Series: Fortifi Cation and Settlement in Crusader Palestine*, ed. Denys Pringle (Burlington, 2000), 133–147.

[23] Pringle, "The Survey," 160, 164–176.

[24] Lewis, "Ascalon, a Landscape of Conflicts," 345–368.

[25] Feature CC in Pringle, "The Survey," 165–168 Figures 19.95–19.98. According to Pringle this tower still stands at a height of 12 m, see Pringle, "The Survey," 165.

[26] Excavations in 2010 at Tel Ascelon atop the northern glacis of the city (grid 10) revealed that the walls were built directly above the Canaanite rampart and with no foundation trench. A similar phenomenon was observed by the first author of the present study in December 2011, when, due to extreme weather, part of the fortification wall by the Jerusalem gate collapsed to the west, revealing the base of the wall and its foundation. Surprisingly, it seemed that in both cases the wall had been built over a layer of mortar laid over the Canaanite mudbricks that formed the top of the rampart; no remains of any foundation trench could be seen in the section.

[27] For the actual height of mudbrick city walls in the southern Levant, see Rona, S. Avissar-Lewis, "Children Beyond City Walls, an Archaeological and Humanitarian Perspective," *Moreshet Israel* 10 (Ariel 2013), 46 (Hebrew). The estimation of the height of the wall here is based on a ratio of 1:3 as the height of the wall against its preserved width.

The northern, eastern and southern gates of the city led to regional roads that connected to the international road running along the coastal plain of the Eastern Mediterranean, connecting Egypt to Bilad al-Sham.

A study of the landscape features around Ascalon reveals that the medieval road system was based on the second-century Roman system constructed during the reign of the Severian dynasty.[29] The international coastal road linked up with several regional roads that led eastwards, further inland and to Jerusalem and Hebron. The port of Ascalon, although its exact location is not certain, connected the city to another international sea trade route. Seafood played an important part in the citizens' diet, while their continuous access to fresh water allowed the inhabitants of the city to grow crops both inside the city and in the fields around it. Archaeological surveys have revealed evidence of extensive agricultural activity around the city, including the fertilization of its fields, which was necessary due to the nutrient-poor soil typical to this region.[30] All this allowed the city an autarkic economy to some extent, based on the agricultural activity within its walls, the fertile troughs around it and the plentiful seafood.

The city of Ascalon was blessed with a good number of water wells,[31] which provided its citizens with constant access to this important resource irrespective of rainfall. The city was finally abandoned in 1270, but the fertile land within the city walls continued to be cultivated until 1948. This is clear from the descriptions of the site by nineteenth-century explorers as well as from the Survey of Western Palestine (SWP) map and historical aerial photographs. Because the handful of Frankish and Muslim archaeological features that still survive are either part of the city's fortifications or public buildings, reconstructing the domestic layout of the city between the years 1099 and 1153, and from 1187 up to its abandonment, will necessarily be no more than a somewhat wild guess. We can nonetheless assume that each household in the city could have grown a basic supply of fruits and vegetables. The year-round availability of water, together with careful fertilization, could allow a variety of crops over the seasons: grapes, dates, almonds, sycamore figs and figs, which could be preserved for a long period of time. However, as only a very small amount of wheat and barley could be grown within the walls, the fields around the city must have therefore played a crucial role in supplying the citizens' diet. Throughout the days of the Latin control of the East, raids were the most frequently used tactic by both the Franks and Muslims, inflicting terror on enemy territory, creating insecurity and chaos, gaining spoils and acquiring intelligence regarding enemy territories, positions and readiness.[32] In the twelfth century Ascalon's agricultural territory was witness to many such raids, which weakened its endurance and strengthened its dependence on provisions coming by sea from Egypt. The raid on the countryside of Ascalon by Baldwin III in 1153 was a continuation of the strategy carried out by his predecessors (and parents) to weaken the Fāṭimid stronghold.

---

[28] Based on personal communication with Ross Voss, one of the chief area supervisors of the Leon Levy Expedition to Ashkelon.

[29] Lewis, "Ascalon, a Landscape of Conflicts," 355–358.

[30] Yaacov Huster, *Ashkelon 5 the Land behind Ashkelon* (Winona Lake, 2012), 9.

[31] Lass, "Water Wells," 105–130. Lass surveyed 73 wells, but between 2008 and 2015 many more wells were located by the Leon Levy Expedition team in Ashkelon in different excavation areas.

Bethgibelin

This first Frankish fortress to be built during the blockade of Ascalon is also the only one to have been extensively excavated. The excavators concluded that it was built in two stages. The first stage was that of a 46 × 48 m castrum, with three corner towers and a church on its south side sharing the south wall of the castrum.[33] The church probably served the nearby rural settlement as well as visitors and pilgrims. In the second stage of the building (in the twelfth century) an outer fortification wall, 190 × 150 m, was built around the existing castrum, enclosing an area of 30 dunams and making the fortress of Bethgiblin one of the earliest examples of concentric castra.[34] Evidence of the destruction of the southern part of the church and the integration of the northern stoa with the fortress, led the excavators to suggest that these had been carried out when the castle had returned to Frankish hands in 1240–1244.[35]

Located by the riverbed of the Ela stream, the fortress of Bethgibelin is dominated by several landscape features in its immediate surroundings. Interestingly, though the fortress is located at an important road junction from which a traveller from Ascalon or Gaza could have journeyed upwards to Hebron or, alternatively, continued on to the Jaffa-Jerusalem road, the castle's location is useless as an observation point towards Ascalon. The preservation of massive walls (some of which are over 4 m wide) suggests that the castle had risen to a substantial height. It has been preserved (in the eastern part) to a height of 13 m and was probably at least 15 m, and possibly even 20 m, tall. Indeed, it would have had to be even taller if it was to rise above the basin in which it was located, as will be demonstrated later.

---

[32] Rafael Y. Lewis, *Archaeology of Conflicts*, 198–200; Prawer, "Ascalon and the," 237.

[33] The use of a church in the south side instead of a fortified tower will make a significant flaw in Bethgibelin's fortifications; it is more likely therefore, that the church replaced a fortified feature (such as a tower), see Pringle, *The Churches*, 99; Boas, "Three Stages," 91–92.

[34] Amos Kloner and Michael Chohen, "The Crusader Fortress of Beth Guvrin," *Qadmoniot* 119/1 (2000), 39; Amos Kloner, "Crusader Beth Guvrin – An Archaeological Survey," in *The Crusaders in Their Kingdom 1099–1291*, ed. Benjamin Z. Kedar (Jerusalem, 1988), 132–138 (Hebrew).

[35] Kloner, "Crusader Beth Guvrin," 145.

Ibelin[36]

Ibelin is located on the ancient tell of Yavneh, which lies on the southern coastal plain, about 7.5 km east of the Mediterranean Sea, on a hill (ca. 370 × 420 m) of the second kurkar ridge. The highest part of the tell (57 AMSL)[37] is located near the north-eastern slope, and it is here that the Frankish fortress of Ibelin was built in 1141.[38]

William of Tyre noted that Ibelin was built over the ruins of the Philistine city of Gath near the city of Ramlah, not far from Lydda on a hill slightly raised above the plain. William tells us that the castle was constructed of very strong masonry with deep foundations and four towers and that the builders relied on the re-use of the remains of older buildings that were to be found in abundance on the hill.[39]

Similar to Gadres and Ascalon, Ibelin too was located along the international road that connected Egypt to the northern regions. On the 1880 map of the SWP, the road can be seen crossing the western slopes of the tell. The crossroads adjacent to Ibelin led also to the west, to the Yavneh-Yam port, and in certain periods to an-Nabī Rūbin; east, to the settlements of the inner plain between the kurkar ridges and from there to the lowlands and Judea; and to the north-east, towards Lydda and Ramla. This prime location greatly contributed to Ibelin's development, to the uninterrupted settlement there through the ages and, in certain periods, to it becoming the foremost city in the region.

Blanche garde[40]

The fortress was built on the southern spur of Tell es-Safi/Gath at 214 AMSL, a vantage point that overlooks a stunning area. The name of the site (in French, Latin and Arabic)[41] reflects the visibility and dominance of the site over the landscape, with its white-faced precipices visible afar from the north and west. The location of the site about halfway between Jerusalem and Ascalon, on the border between the Judean lowlands and the southern coastal plain and in the vicinity of a major crossroads, has long contributed to the importance of the site.[42]

---

[36] For a new interpretation of the archaeological finds see Kedar, this volume. "In Search of Ibelin Castle: Experimenting with Non-Destructive Archaeology."

[37] Height above mean sea level.

[38] Moshe Fischer and Itamar Taxel, "Ancient Yavneh its History and Archaeology," *Tel Aviv* 34/2 (2007), 205.

[39] WT, XV, 24, 706–707.

[40] For an update on recent excavation results see Maeir and Chadwick, this volume: "The *Blanche Garde* Fortress at Tell es-Safi/Gath: An Update on Recent Excavation Results."

[41] French- *Blannche Garde*, Latin- *Alba Specula/Custodia* and Arabic *Tel es-Safi*, see Boas, "Tell es-Safi/Gath," 153–154.

[42] Joe Uziel and Aren M. Maeir, "Scratching the Surface at Gath: Implications of the Tell es-Safi/Gath Surface Survey," *Tel Aviv* 32 (1) (Tel Aviv, 2005), 50.

Even though the excavation of Blanche Garde was one of the original main goals of the Tell es-Safi project, the Muslim *maqam* and a graveyard found in this area of the tell prevented the researchers from fully exploring this area, and the study was limited to a ground survey and partial excavations. The site was described by William of Tyre and by nineteenth-century explorers, and surveyed during the 1996 and 1997 excavation seasons.[43] The overall area of the fortification is 16 × 16 m, which is relatively small compared to other castrum castles.[44] The size of the castle raises questions regarding its functions and ability to contain a small garrison, if we take into account that the towers were most probably solid turrets (as is the only tower still partly seen at present) and no additional vaults that could have served as living quarters have been found.[45]

Gadres (Gaza)

The fortress, built in 1149–1150, was the last to be built by the Franks during the blockade of Ascalon. Gaza was considered by William of Tyre to be the southern city in the kingdom before Egypt.[46] William's description of the construction portrays a narrative of aggressive warfare, with Gaza being rebuilt and given to the Templars in order to enable a strong assault on Ascalon. According to William of Tyre, the city had been abandoned and the fortress was built over its ruins. However, due to a shortage of resources and the needs of the time, the fortifications only covered part of the ancient, abandoned city.[47] The fortress was located on a hill overlooking the city. Built on suitable foundations, it was notable for its walls and towers. Shortly after its completion the Frankish efforts were challenged, but the castle held against a raid from Ascalon.[48]

The contemporaneous political circumstances and the fact that Gaza is densely populated currently hinder a more extensive survey of the fortress. The city of Gaza is located along the international road connecting Egypt to the northern regions of Israel via the city of Ascalon, making this fortress extremely vital. On the 1880 SWP map, the road can be seen to the east and at the foot of the ancient city. However, it was relatively isolated from other Frankish settlements until the fall of Ascalon in 1153 and the construction of Darum (Darom) in Dayr al-Balah to its south in 1163 and 1170.[49]

---

[43] Boas, "Tell es-Safi/Gath," 154–155.

[44] Adopted by the Franks in the twelfth century, it was a common type of fortification from the Roman to the Umayyad periods, see Adrian J. Boas, *Crusader Archaeology: The Material Culture of the Latin East* (Abingdon, 1999), 101; Boas, "Tell es-Safi/Gath," 154.

[45] Boas, "Tell es-Safi/Gath," 156.

[46] WT, XVII, 12, 775–777.

[47] WT, XVII, 12, 776; Pringle, *The Churches*, 208; Boas, *Archaeology of the*, 38.

[48] Ibid.

[49] Ellenblum, *Crusader Castles*, 173; Ronnie Ellenblum, *Frankish Rural Settlement in the Latin Kingdom of Jerusalem* (Cambridge, 1998), 137; Denys Pringle, *Secular Buildings in the Crusader Kingdom of Jerusalem, an Archaeological Gazetteer* (Cambridge, 1997), 46.

Summil (Summeil)

A preliminary survey of the site suggests that Summil was a castrum-type fortress covering an area of about 2,000 m^2 (48 × 42 m). The remains of a defensive dry ditch can be seen to the north of the fortress (Figures. II.3.3–5). A depression along the southern and north-western part of the building suggests that it was surrounded by a defensive ditch from all other sides as well. The northern wall of the castle is highly impressive and is preserved to a length of 24.5 m from the north-eastern corner of the castle to the west, and to a height of 5.3 m from the current ground level (Figure II.3.3 and Figure II.3.5). The northern wall of the fortress is 1.9 m wide at the top and about 2.6 m wide at the base, due to a glacis slanting from the fourth course of stones down and northwards (Figure II.3.5). In contrast to the good preservation of the northern wall, the southern wall of the compound is preserved only at the castrum's south-eastern corner, to a length of 3.7 m and a height of 0.75 m. Only the top of the eastern wall can be seen, and the exact line of the western wall is also unclear. In the southern part of the western wall of the castle a complex of walls is visible, facing west from the main structure, and one of which is preserved to a height of 3.2 m from the current ground level. This feature might suggest the location of a gatehouse. A rectangular vaulted room 4.7 × 4.7 m and 4 m in height (seen from ground

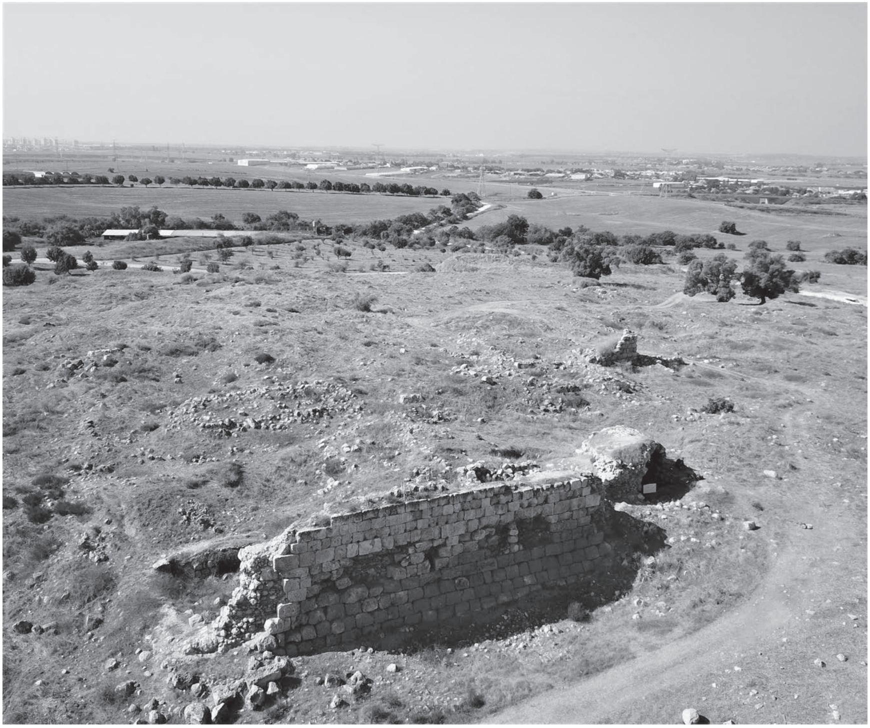


Figure II.3.3 Aerial westwards view of Summil. © R. Y. Lewis

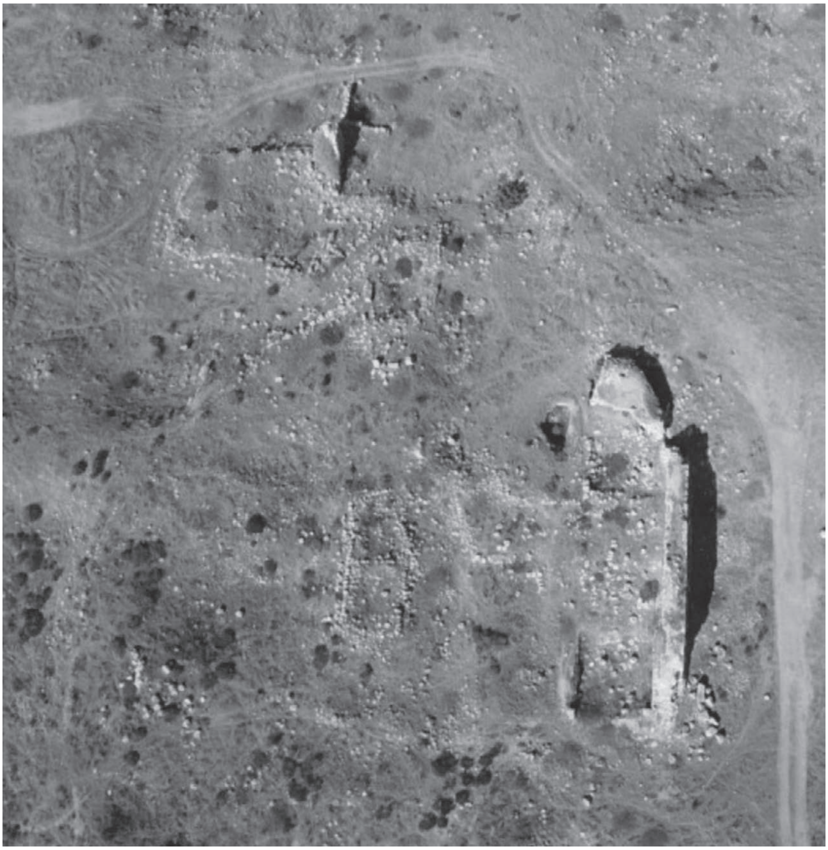


Figure II.3.4 An oblique north-east aerial view of Summil fortress. © R. Y. Lewis

level), is preserved towards the western end of the northern wall. It seems that there is at least one more level of remains still buried under the ruins, since another vaulted chamber can be seen under and to the south of the existing one.

Ehrlich's identification of the site as the fortress built by Count Rodrigo Gonzalez of Lara highlighted this almost ignored site. Ehrlich draws attention to Summil and its potential importance in the Ascalon blockade. While he struggles with the written and toponymic evidence, for the description of the actual remains he relies solely on earlier works.[50] His modest description of it stands

---

[50] Ehrlich, "The Lost Castle," 787; Claude R. Conder and Horatio H. Kitchener, *The Survey of Western Palestine*, Memoirs vol. II, Sheets VII–XVI, Samaria (London, 1881), 413; Pringle, *Secular Buildings*, 97.

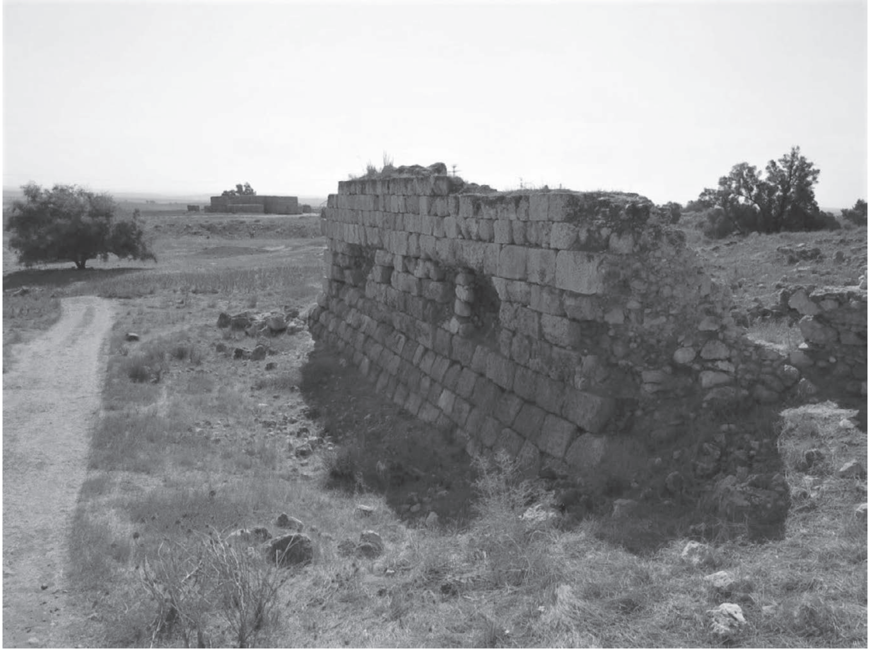


Figure II.3.5 The northern fortification wall of Summil fortress, seen from the north-west; note the moat and the glacis. © R. Y. Lewis

in contrast to its true scale and its research potential, for the ruins of Summil fortress are staggering (Figures II.3.3–5). It stands on a hilltop, only slightly raised above the surrounding landscape and within the remains of an abandoned Palestinian village.

In relation to important roads, Summil, unlike the other fortresses, is not located by the international coastal road nor on the main road connecting Tel es-Safi to Bethgiblin. The fortress is, however, located at a crucial position in relation to one of the main regional roads connecting Ascalon to the interior. On the SWP map Summil is located on the north-eastern edge of "Nahiet el Majdal", an area that administratively belongs to Majdal (Mamluk-Ottoman Ascalon). In addition, it is evident from the same map that Summil constitutes a focal point connecting several secondary regional and local roads, which could have been used for an invading force coming from Ascalon. Such a force could easily have slipped in through the gap between Blanche Garde and Bethgibelin, along the road going east (nowadays road 353) towards Bethgibelin. Any advance by forces from Summil towards Jerusalem or Hebron would necessarily either go through Blanche Garde and Bethgibelin or at least connect to the regional road running between them.

Common denominators and features

It seems that the common denominator of all the fortresses presented here is the fact that they were of the simple castrum type. This simple design allowed easy and quick construction, with the four corner towers giving good coverage of the immediate and more distant area. The choice of rectangular towers (in most cases) also enabled the garrison to concentrate as much firepower as possible towards a specific threat. The Frankish strongholds were located at vantage points across the landscape and in close proximity to the important routes and junctions used by the Muslim invaders. The castles did not merely proclaim dominance and control, but posed a real threat to the Fāṭimids, as demonstrated in the attack on Gaders by Fāṭimid Ascalon shortly after Gader's construction. Bethgiblin too was attacked, in 1158. It held till September 1187, when Ascalon returned to Muslim hands as a result of the campaign that followed the Frankish defeat in Hattin.[51]

Viewshed analysis

Questions of visibility (and invisibility) have long been part of archaeological research. Since relatively early in the twentieth century, the method of viewshed analysis, rooted in the field of spatial archaeology, has been used to investigate issues of site location choices and social interactions.[52] While some have attempted more rigorous, quantitative approaches,[53] viewshed analysis has always suffered, and quite rightly so, from various critiques; these relate, among other things, to the inability to quantify and compare the human sight, a highly subjective affair in its very essence. The human sight is influenced by various cognitive and perceptual influences, alongside various physical "technicalities": sight is affected by distance, seasonality, diurnal changes, vegetation and many other factors.

---

[51] Pringle, *The Churches*, 95.

[52] Michal Birkenfeld and Nigel A. Goring-Morris, "'Out of Sight': The Role of Kfar HaHoresh within the PPNB Landscape of the Lower Galilee, Israel," *Archaeological Review from Cambridge* 30 (2015), 95–114; Rafael Y. Lewis, Adi Erlich and Rona S. Avyasaf. Appendix by Michal Birkenfeld, "Assemblage of Metal Artifacts on the Hill of Esh-Sheikh Ibreik' (Beth She'arim), Its Landscape and Archaeological Context," *ZDPV* (forthcoming); Eric E. Jones, "Using Viewshed Analysis to Explore Settlement Choice: A Case Study of the Onondaga Iroquois," *American Antiquity* 71/3 (2006), 523–538; Gary R. Lock and Trevor M. Harris, "Danebury Revisited: An English Iron Age Hillfort in a Digital Landscape," in *Anthropology, Space, and Geographic Information Systems*, eds. Mark Aldenderfer and Herbert D. G. Maschner (New York and Oxford, 1996), 214–240.

D. Fraser, *Land and Society in Neolithic Orkney*, British Archaeological Reports (British Series 117) (Oxford, 1983).

[53] Ibid.

In many respects, the introduction of computerized archaeology in general, and geographic information systems (GIS) in particular, has aided in addressing some of these issues. GIS uses a digital elevation model (DEM) to determine the area visible from a given point in the landscape (i.e., "observer point") based on local and regional topography. It enables the consideration of the earth's curvature, of light refraction and, most importantly, the quantification and the unbiased comparison of different viewsheds. Still, it is probably impossible to fully recreate what was visible from a specific location at a given point, and the values obtained via the viewshed analysis, in which topography is the main factor considered, should be received with caution. The maps presented here represent an optimal condition based mainly on the view from a specific height in relation to other viewpoints and topographic obstacles. We cannot really be sure to what extent the different sites presented in this analysis were actually visible to the bare eye from other fortresses, the exact communication means available,[54] the visibility on a specific day (which could change even following the slightest change in weather), and nor can we know the exact viewpoint from which observations might have been made, since not a single feature in the studied fortresses has survived to its original height. Nonetheless, we believe that the results presented here, even if considered a heuristic effort, may have implications on our understanding of the blockade of Fāṭimid Ascalon (Figures II.3.6).

The viewshed analysis presented here was conducted to evaluate the areas that are visible from several observer points. The analysis was performed using ESRI ArcMAP 10.7.1 and the viewshed tool set. The DEM used was a 25 m cell size DEM, created based on 5 m contour line elevation maps. The earth's curvature was considered, with the default 0.13 refraction value.

Eight observer points have been considered, including the three presumed gates of Ascalon and five surrounding fortresses (Table II.3.1). In general, based on the preserved remains described earlier, an observer height of 10 m above ground (AMSL) was used for each observer point.[55] The only exception was Bethgibelin, where walls in the eastern part of the fortress preserved to a height of 13 m and reconstructions estimate a total height of 15–20 m. Here, a height of 15 m was used as observer height.

---

[54] For a survey of communication means available during battles, see Rafael Y. Lewis, *Archaeology of Conflicts: The Decisive Stage of the Battle of Hattin as a Case Study*, Unpublished PhD Thesis (Hebrew with English Abstract) (Haifa, 2013), 192–196.

[55] The solid tower of Blanche Garde could suggest that even though the fortress is considerably small, its walls could have stood to a substantial height; therefore, we think that placing the site line from this stronghold at AMSL+10 m will not be farfetched. An in regard to Gadres, our viewshed analysis was conducted from the height of the ground level of the site AMSL+10 m, as in the case of most of the other fortresses. We did so on the basis of William's testimony regarding the depth of its foundations, which should, theoretically, have been able to bear walls to a height close to this estimation.

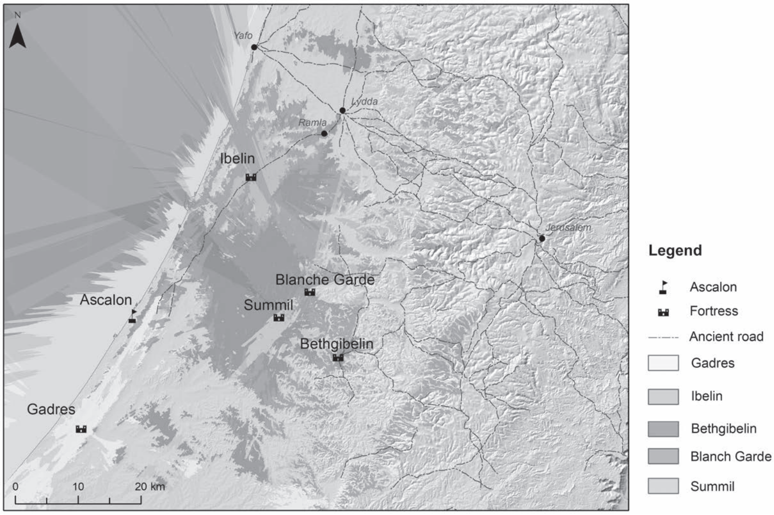

N
Yafo
Lydda
Ramla
Ibelin
Jerusalem
Blanche Garde
Ascalon
Summil
Bethgibelin
Gadres
0
10
20 km
Legend
Ascalon
Fortress
Ancient road
Gadres
Ibelin
Bethgibelin
Blanch Garde
Summil

Figure II.3.6 Cumulative viewshed analysis of all strongholds noted, in relation to topography and the ancient road system. © M. Birkenfeld

Table II.3.1 Viewshed analysis perspective in relation to the estimated maximum height of each stronghold.

Site	*Location (Israel New Grid)*	*AMSL*	*AMSL +10*	*AMSL +15*
Ascalon Jerusalem Gate	157443: 619149	38	48	-
Ascalon Jaffa Gate	157408: 619532	24	34	-
Ashkelon Gaza Gate	156880: 618733	34	44	-
Ibelin	176192: 641576	57	67	-
Blanche Garde	185553: 623344	214	224	-
Gadres	149185: 601575	46	56	-
Summil	180615: 619290	140	150	-
Bethgibelin	190063: 612938	254	-	269

Results

Several conclusions can be drawn based on this analysis, some of which can contribute to our understanding of the importance of the sites and their interrelations (Table II.3.2).

Ascalon (Figures II.3.7): The sea to the west of the city is the most dominant feature in the city's viewshed.[56] The kurkar ridge, located 800 m to the east of the city, blocks

---

[56] This stands in contrast to Gadres, which has no direct view of the waterline.

Table II.3.2 Metrics of viewshed analysis: 1 visible; 0 not visible.

	Ascalon from all the gates	*Ibelin*	*Blanche Garde*	*Gadres*	*Summil*	*Bethgibelin*
Ascalon from all the gates	-	0	0	1	0	0
Ibelin	0	-	1	0	1	0
Blanche Garde	1	1	-	0	1	0
Gadres	1	1	0	-	0	0
Summil	0	1	1	0	-	1

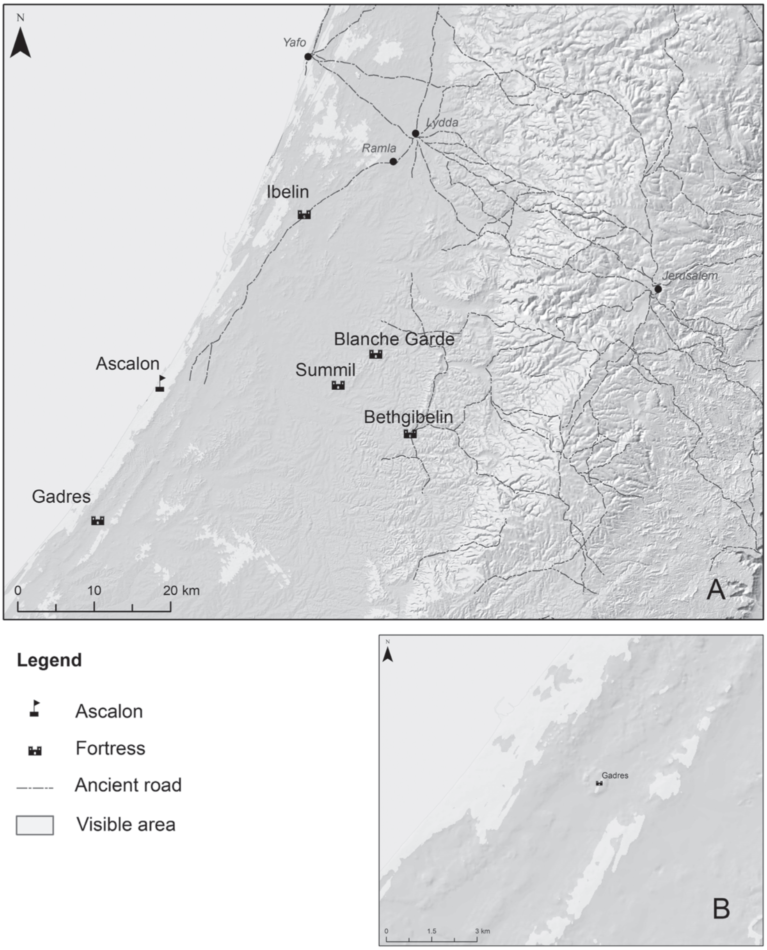

N
Yafo
Lydda
Ramla
Ibelin
Jerusalem
Blanche Garde
Ascalon
Summil
Bethgibelin
Gadres
0
10
20 km
A
Legend
Ascalon
Fortress
Ancient road
Visible area
N
Gadres
0
1.5
3 km
B

Figure II.3.7 Viewshed analysis of the three land gates of Ascalon, with a close-up of Gadres. © M. Birkenfeld

the view from its walls to the area immediately east of the ridge. The Judean highlands can be seen in the far distance, but none of the Frankish fortresses, except Gadres, is in the city's sightline. The citizens had some freedom of movement, allowing them to cultivate the fields adjacent to the city but only as long as they posted guards on the ridge itself. The fortresses to the north and south of Ascalon were important in enabling observation of covert activities (such as the assembly of troops or their movement north or south) taking place between the city and the kurkar ridge.

Bethgibelin (Figures II.3.8): This fortress's location inside a basin isolates it for some distance. Interestingly the hill just to the north of Summil is within the sightline of Bethgibelin, with the port of modern-day Ashdod located farther north still.

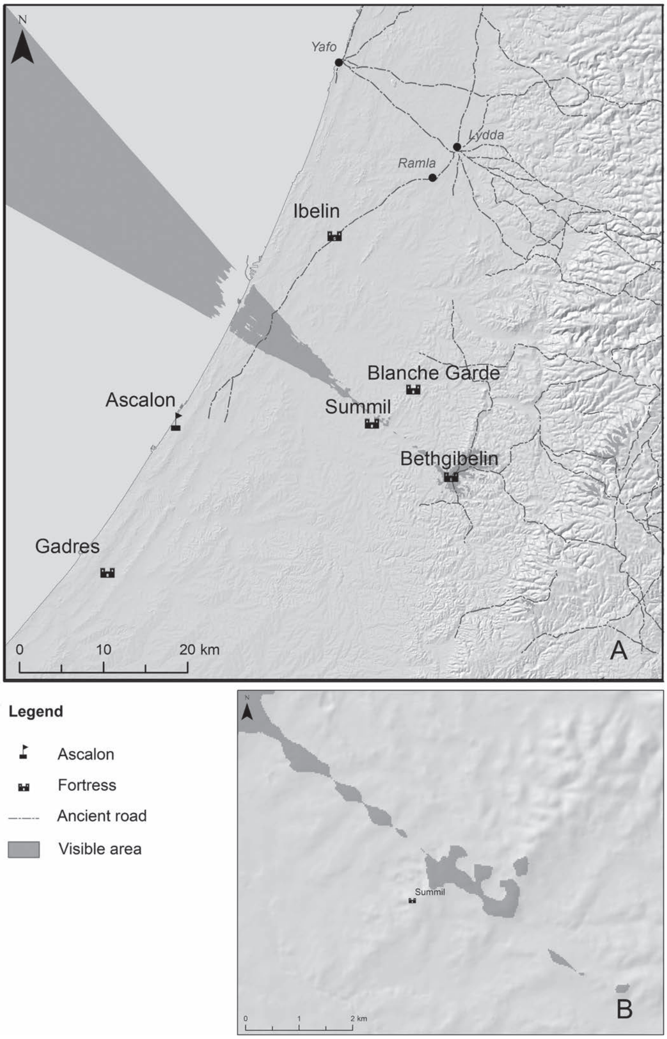

N
Yafo
Lydda
Ramla
Ibelin
Blanche Garde
Ascalon
Summil
Bethgibelin
Gadres
0
10
20 km
A
Legend
Ascalon
Fortress
Ancient road
Visible area
N
Summil
0
1
2 km
B

Figure II.3.8 Viewshed analysis of Bethgibelin with a close-up of Summil. © M. Birkenfeld

Ibelin (Figures II.3.9): The hills dominating Bethgibelin can be seen from Ibelin, but the fortress itself is invisible. Blanche Garde and Summil, in contrast, are clearly within Ibelin's sightline. Even though Ibelin fortress has a good view of the coastline, Ascalon cannot be seen from it, but only the ridge to the east of it.

Blanche Garde (Figures II.3.10): Located as expected in an excellent point for observation.

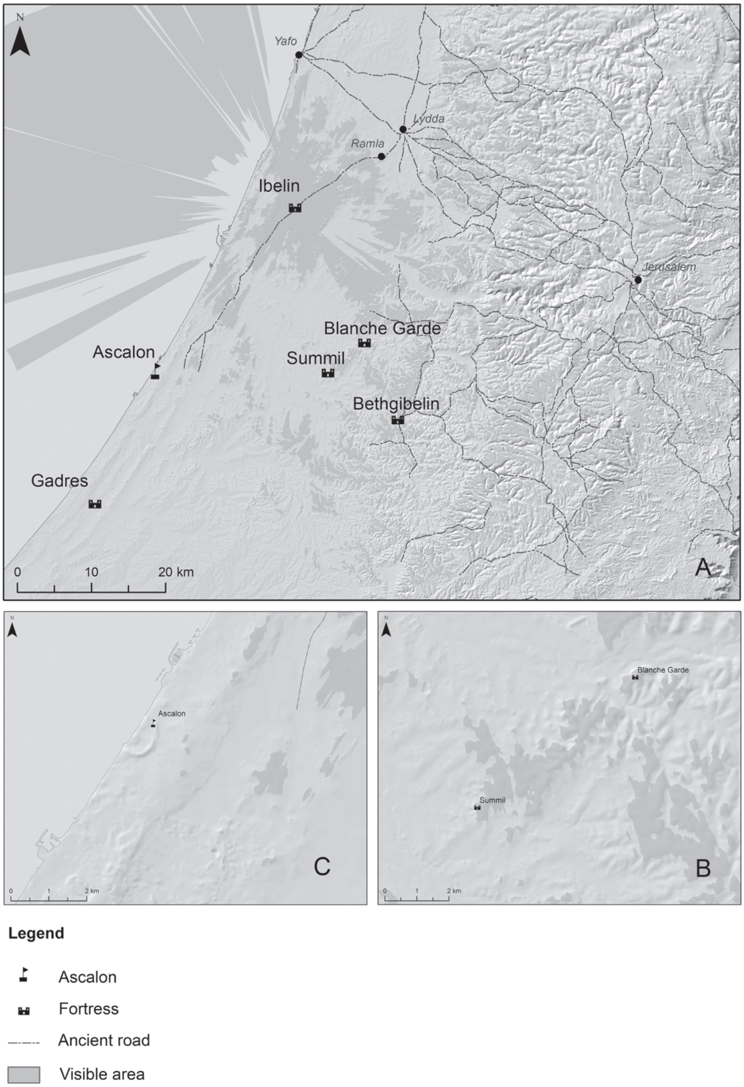

N
Yafo
Lydda
Ramla
Ibelin
Jerusalem
Blanche Garde
Ascalon
Summil
Bethgibelin
Gadres
0
10
20 km
A
N
Ascalon
C
0
1
2 km
N
Blanche Garde
Summil
B
0
1
2 km
Legend
Ascalon
Fortress
Ancient road
Visible area

Figure II.3.9 Viewshed analysis of Ibelin with a close-up of Ascalon, Blanche Garde and Summil. © M. Birkenfeld

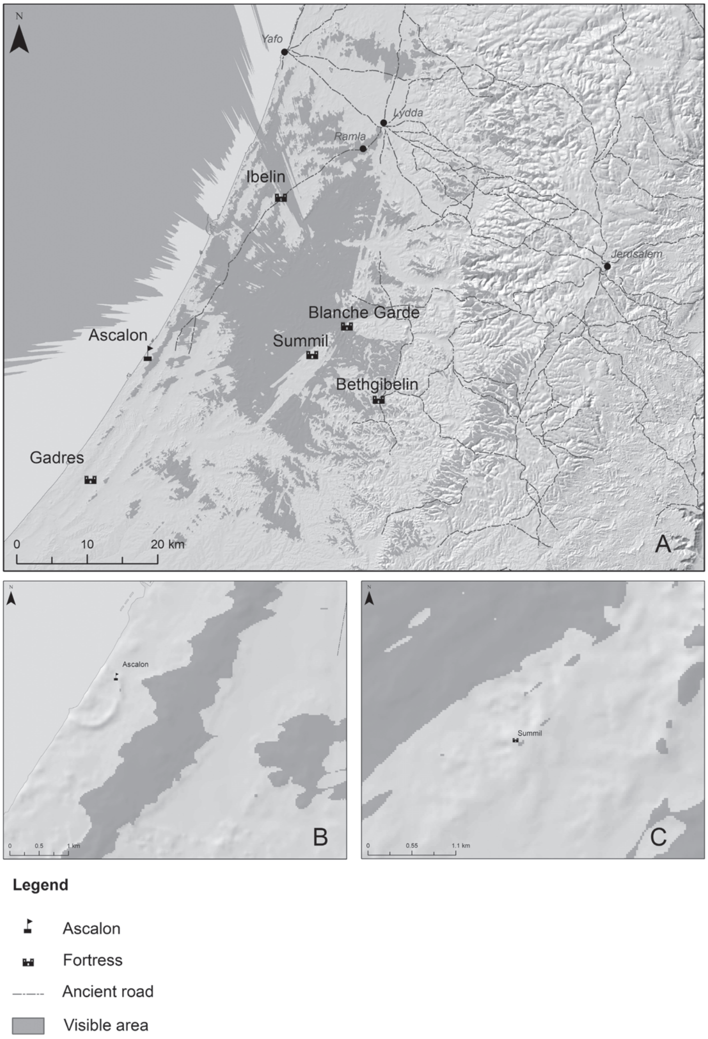

N
Yafo
Lydda
Ramla
Ibelin
Jerusalem
Blanche Garde
Ascalon
Summil
Bethgibelin
Gadres
0 10 20 km
A
N
Ascalon
0 0.5 1 km
B
N
Summil
0 0.55 1.1 km
C
Legend
Ascalon
Fortress
Ancient road
Visible area

Figure II.3.10 Viewshed analysis of Blanche Garde with a close-up of Summil and Ascalon. © M. Birkenfeld

Most importantly, Ascalon can be seen from it (making it and Gadres the two fortresses able to directly observe Ascalon). The fortresses of Ibelin and Summil are also within its sightline, while Bethgibelin is in the shadow of the hills that surround it.

Gadres (Figures II.3.11): Theoretically (because of the great distance between the two) Ibelin can be seen from Gaza. More importantly, the entire southern and eastern section of the walls of Ascalon are within Gadres' sightline. Remarkably

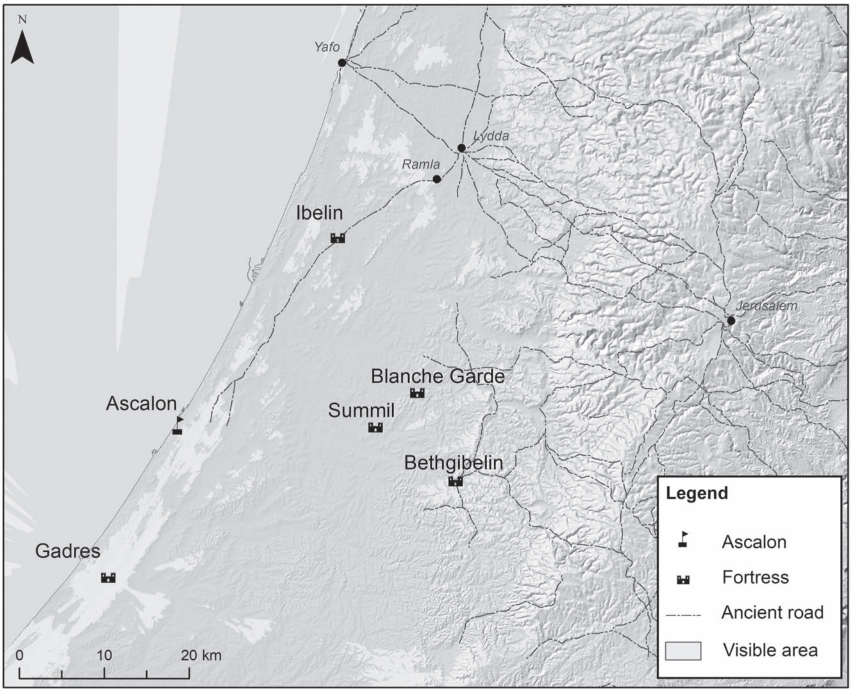

N
Yafo
Lydda
Ramla
Ibelin
Jerusalem
Blanche Garde
Ascalon
Summil
Bethgibelin
Gadres
0
10
20 km
Legend
Ascalon
Fortress
Ancient road
Visible area

Figure II.3.11 Viewshed analysis of Gadres to Ascalon, both Ascalon's Gaza Gate and Jerusalem Gate are viewed from Gadres. © M. Birkenfeld

the sightline from the Gadres fortress is towards the west and blind to the sea, with the Mediterranean only visible at 10 km from the shoreline.

Summil (Figures II.3.12): This fortress covers the most expansive view of all the strongholds discussed here. It is clear that its location was carefully planned and is linked to the location of all the other strongholds. Although one cannot see Ascalon from Summil, the latter controls the kurkar ridge to its east. In relation to Bethgibelin and Blanche Garde, Summil almost represents an arrow pointed at Ascalon, located on the westernmost edge of the hill country and within view of Bethgibelin and Blanche Garde.

Summil's location also provides a direct sightline to the fortresses of Ibelin, Blanche Garde and Gadres, even though their surroundings are not visible to Summil.[57]

---

[57] If we were to "grade" the fortresses as observation points, then Summil would open the list with the best viewshed, followed by Blanche Garde, then Gadres, Ibelin, Bethgibelin and Ascalon closing the list.

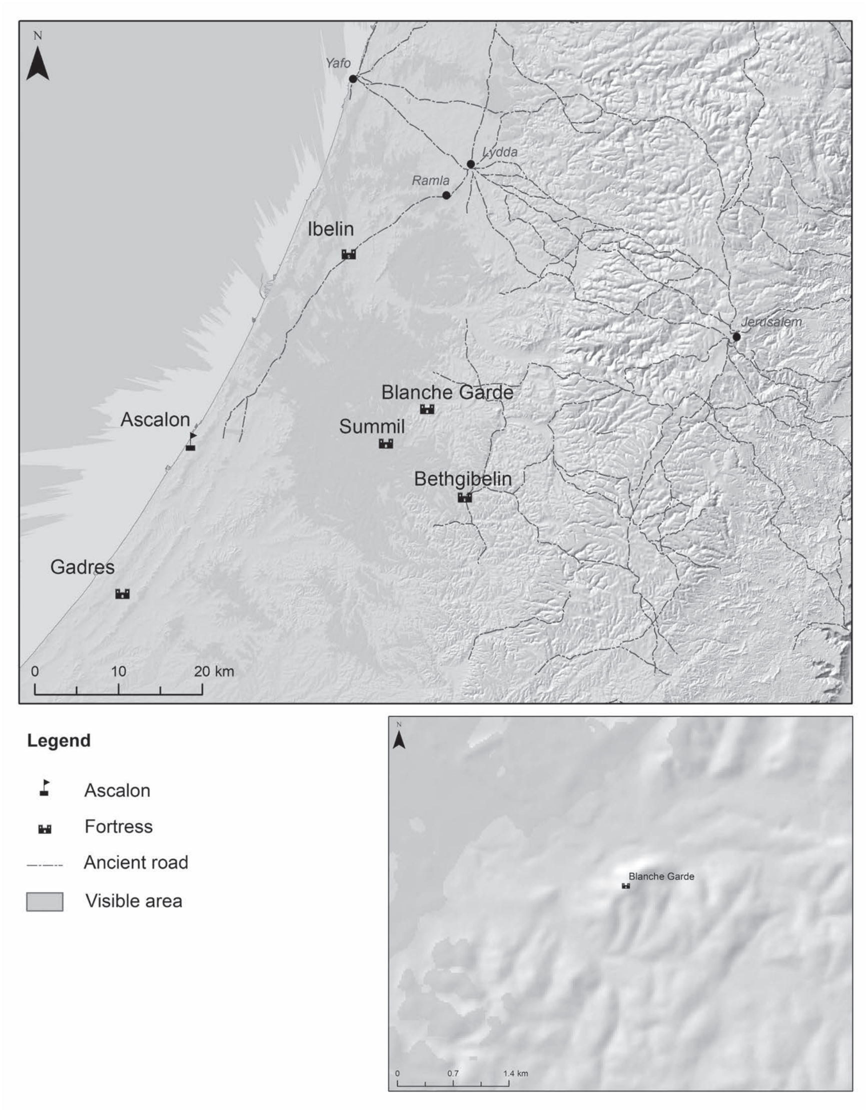

N
Yafo
Lydda
Ramla
Ibelin
Jerusalem
Blanche Garde
Summil
Ascalon
Bethgibelin
Gadres
0
10
20 km
Legend
Ascalon
Fortress
Ancient road
Visible area
N
Blanche Garde
0
0.7
1.4 km

Figure II.3.12 Viewshed analysis of Summil with a close-up of Blanche Garde (map by Michal Birkenfeld IAA and BGU). © M. Birkenfeld

Implications

Before we discuss the implications of the viewshed analysis, we shall first address certain concepts that have recently challenged several previously consensual views on Frankish settlements and fortresses. Ellenblum noted that from the 1120s to the

1170s the Fāṭimids and the local Muslims did not present a real threat to the Latin Kingdom, in contrast to the more concrete threat to the northern principalities by the Turks.[58] This allowed the Franks to settle the rural landscape even in unfortified settlements.[59] Ellenblum also noted the recurrent dialogue between the Kingdom and its enemies, as reflected in the fortresses built, their development and the strength of their walls, which were reinforced following the growing threat.[60] He specifically questioned the strength of Ascalon, arguing that the Franks' confidence in their military supremacy led them to build fortresses and even grant villages located within Fāṭimid Ascalon-controlled territory.[61] Ellenblum's perspective links Frankish military architecture to the landscape in which it was created, and he argues against perceiving it as an architectural icon of a society indifferent to its environs. He convincingly demonstrated that fortifications are no different to other common denominators in medieval settlements and therefore cannot be used as criteria by which to define the nature of such settlements, with the diversity and richness of medieval life having been systematically ignored by scholars who have, in contrast, interpreted the network of settlements as a chain of fortifications. Rather, the classification of settlements should be based on the services provided by the castles to the surrounding area and not according to the nature of these castles.[62]

As convincing as these concepts might be, in regard to the area between Ascalon and the Frankish settlements, we should take the following points into account: first, even if a fortress was just one of the many elements that comprised a medieval settlement, the military and political need for a fortress could motivate the entire settling operation, and its presence could constitute a key feature in enabling a military campaign to be carried out safely and successfully. We must also remember that the construction of a fortress requires a substantial investment and, therefore, should be well thought out and carefully planned.[63] Regarding the question of the actual scale of the threat imposed by Ascalon, the frequent clashes between Franks and Muslims in this landscape are a testimony to its severity. Usāma Ibn

---

[58] This chapter was submitted a few hours after the sad news of Ronnie's passing reached us. Prof. Ellenblum was a giant in many fields and one of the leading thinkers of our time. His brilliant mind introduced some of the more important ideas in historical-geography and studies on the Latin Kingdom of Jerusalem. We would like to make it clear that though some of his work is criticized here, we hold his friendship, teaching and undoubted intellectual contributions in the highest regard. As his former students at the Hebrew University of Jerusalem, we are certain that his work will continue to influence future academic works and inspire future students, just as it did us.

[59] Ellenblum, *Frankish Rural*, 277–287; Ellenblum, *Crusader Castles*, 293–294. For the main criticism on Ellenblum's work: Denys Pringle, "Review of R. Ellenblum, 2007, Crusader Castles and Modern Histories. Cambridge University Press. Cambridge and New York," *H-France Review* 8/44 (2008), 180–183.

[60] Ellenblum, *Crusader Castles*, 295.

[61] Ibid., 156.

[62] Ibid., 295.

[63] And as testified specifically by William of Tyre: WT, XIV, 22, 659–660.

Munqidh attests to several instances in which Muslims, including himself, saw conflict in Ascalon's territory.[64] The land between the Frankish fortresses and the Fāṭimid city indeed witnessed considerable action. The Frankish forces kept a close eye on all movement around the city and to it, not missing any opportunity to engage in a skirmish with the Muslim caravans passing through their area. The Muslims on their part attacked Bethgibelin, Ibelin and Gadres.[65] The Franks maintained a considerable response force in the area and followed Muslim caravans almost to the very gates of the Fāṭimid city. Ibn Munqidh, in his description of a raid he conducted together with his brother in 1150 on Bethgibelin, specifically states that the fortresses were adjacent to each other and held many horses.[66] On the Muslims' part, it appears that they would not have sought to attack the Frankish posts if these attacks had not provoked and threatened the Frankish sovereignty. It is clear from the written sources that the fortresses were only part of a very dynamic and flexible type of blockade and that a border (in its modern sense) did not really exist.[67] William of Tyre states that the fortresses were built for the purpose of assembling forces, to facilitate observation of the enemy's ventures and to enable frequent attacks to be made from the fortresses upon Ascalon.[68] Ibn Munqidh's testimony regarding the active movement of Frankish forces in the region, which included violent clashes next to Ascalon's walls and the Franks physically following Muslims to the gates of Ascalon, demonstrates the tight but dynamic nature of the city's isolation.

Another point for consideration is that all the settlements within Ascalon's territory were built inside or adjacent to a well-fortified structure, while the unprotected "street villages" were all concentrated in the mountainous region, which should be regarded (in military terms) as a "closed area", making it very hard for large forces to manoeuvre, unlike Ascalon's "open area".[69] The steep terraced slopes in the highland region confined the movement of people through the landscape to roads, allowing those seeking to manipulate, contain and block enemy movement to do so relatively easily. This was evident in two of the Muslim raids directed against Jerusalem, in 1124 and 1152, and which were met by the Franks in the city's rural area and not at its walls.[70] On the other hand an assault, described by Fulcher of Chartres (of unknown time) of the people of Ascalon on al- Bira (Mahumeria), found no Frankish resistance.[71]

---

[64] For more on Usāma Ibn Munqidh's description of the events in Ascalon's inverness see Reuven Amitai, this volume: "Some Thoughts on Warriors and War in Usāma ibn Munqidh's *Kitāb al-I'tibār*."

[65] Usama ibn Munqidh, *The Book of Contemplation*, trans. Paul M. Cobb (London, 2008), 24–26.

[66] Ibid., 25; According to Usāma during the time he spent in Ascalon he also raided Ibelin (Yubna), killing about a hundred, and captured prisoners, ibid., 26.

[67] On this, see Ellenblum, *Crusader Castles*, 130.

[68] WT, XIV, 22, 660.

[69] Adrian J. Boas, *Crusader Archaeology*, 63–68; Adrian J. Boas, *Domestic Settings: Sources on Domestic Architecture and Day-to-Day Activities in the Crusader States* (Leiden and Boston, 2010), 91–93, 321–335.

[70] WT, XIII, 8, 595; WT, XVII, 20, 787–789.

Summil's close ties to Bethgibelin might suggest that it was built shortly after it, and in order to serve as its front post and as a concession to Bethgibelin's inferior location, a point that might strengthen its identification as the Toron built by Count Rodrigo Gonzalez of Lara. This is unlikely, however, since Summil was also clearly related to Blanche Garde, as the latter centres almost exactly within Summil's sightline. Blanche Garde was considerably smaller and, therefore, its ability to serve as anything more than a watchtower is questionable. On the other hand, it is very likely that a response force that could potentially be deployed from Ibelin and Blanche Garde was stationed at Summil. Summil's impressive size and location would be a perfect place for the deployment of cavalry for patrols and as a response force. Caravans and invading forces setting out from Ascalon could be spotted by the Summil garrison once they crossed the kurkar ridge overshadowing the city from its east, or at an earlier stage if spotted from Blanche Garde or Ibelin. Summil's best sightline over the region, and its location at the "tip of the Frankish arrow head" pointed to Ascalon, could suggest that it was built while also taking into consideration the locations of Ibelin, Blanche Garde and Bethgibelin, with Summil either being the last to be built or close in time to the construction of Ibelin and Blanche Garde.[72]

The fact that only Gadres can be seen from the walls of Ascalon is also of significance, implying that the construction of the fortresses by Fulk was motivated by purely operational thinking, as their garrisons can see but remain unseen. This stands in contrast to the perception by some scholars of fortresses mostly as symbols and dominating icons demonstrating ownership of the land and returns us to the more conservative notion of fortresses.

We should also take into account the speed with which the project was completed and which resembles other examples of response to an immediate threat to the inhabitants of this part of the world in both the distant and more recent past.[73]

---

[71] Fulcher of Chartres, *A History*, 265–266.

[72] The importance of Summil as understood from this analysis stands in contrast to the fact that it is unmentioned in any documents known to us, an enigma which hopefully will be answered with future research of the site. Pringle, in his debate on the definition of castles, addressed the fact that many of the settlements and fortifications cannot be attributed to a specific owner, see Pringle, *Churches, Castles*, 103.

[73] On the Fāṭimid fortification of Jerusalem in 1098, see Gibson and Lewis in this publication, vol. 1; Joshua Prawer, "The Jerusalem the Crusaders Captured: A Contribution to the Medieval Topography of the City," in *Crusade and Settlement*, ed. Peter W. Edbury (Cardiff, 1985), 1–16; idem, "Political History of Crusader and Ayyubid Jerusalem. The Conquest," in *The History of Jerusalem: Crusaders and Ayyubids (1099–1250)*, eds. Joshua Prawer and Haggai Ben-Shammai (Jerusalem, 1991), 1–28 (Hebrew); John France, *Victory in the East: A Military History of the First Crusade* (Cambridge, 1994), 355–384; Benjamin Z. Kedar, "The Jerusalem Massacre of July 1099 in the Western Historiography of the Crusades," *Crusades* 3 (2004), 15–75; Conor Kostick, *The Siege of Jerusalem: Crusade and Conquest in 1099* (London and New York, 2009), 174–184 For

Conclusion

The overall impression is thus that the blockade of Ascalon was a well-thought-out and pre-planned act, which took into consideration many landscape-related factors in the selection of the stronghold locations. The Franks were also fully aware of the importance of the location of ancient cities and their relation to the land controlled by them, as indicated by the refortification of Bethgibelin, Ibelin and Gadres (and, unaware of its ancient past, also Blanche Garde/Gath of the Philistines). Fulk created a dynamic blockade composed of various synchronized components, based on defensible viewpoints and their ability to see and signal each other, with patrols and response forces manoeuvring dynamically between them.

King Fulk's plan

Fulk's plan for isolation of Ascalon constitutes two stages: The first part was to ensure control of the main road junctions on the Ascalon – Valley of Ayalon axis and the road to Jerusalem. This was accomplished, in chronological order, with the construction of Castrum Arnaldi, guarding the northern mountain pass; Beithgibelin, guarding the road to the south upwards to Hebron, Bethlehem and Jerusalem; and finally, Toron des Chevaliers, guarding the most important road junction in the region and the entrance to the central mountain pass.[74] Once the main junctions had been secured it was time for the second stage: build a second line of fortresses, starting with Ibelin, Blanche Garde, Summil and Gadres. That Gadres was built after Fulk's death implies that his successors executed his plan in full while continuing his strategy (at least for the first few years).[75] It seems as if the isolation of Ascalon was planned carefully, that Fulk's strategy was to keep the Hydra (Ascalon) in its cave – a strategy that might have weakened the Fāṭimid city. The city's endurance during seven months of harsh siege, however, offers a testimony to its epic strength.

---

such projects in the more recent past, see Kobi Michael and Amnon Ramon, *A Fence Around Jerusalem the Construction of the Security Fence ("Separation Fence") Around Jerusalem* (Jerusalem, 2004), 6–8 (Hebrew). General Background and Implications for the City and its Metropolitan Area.

[74] On the motivation behind the construction of Castrum Arnaldi, as an answer to the attacks made by the people of Ascalon against pilgrims before entering the dangerous mountain pass, see WT, XIV, 8, 639–640.

[75] And this may indicate that the siege of 1153 was not a spontaneous act of a raid into Ascalon's territory that then developed into a full-scale siege, as William of Tyre implies. WT, XVII, 21, 789–790; Lewis, "Ascalon," 347–348.

4 Et domus sua cuique est tutissimum refugium[1]

Jean II of Ibelin, *Arsur castle and the Hospitallers*

Vardit R. Shotten-Hallel, Hagi Yohanan, Moshe Fischer and Oren Tal[2]

Introduction

"Architectural language" is a broad term reflecting a controlled effort to produce a structure that proclaims place, landscape, space and identity while also uniting function and purpose. The architect begins with a design concept and chooses the ways by which to execute a program that responds both to context and environment and to the patron's demands. Amongst other factors, the architect will estimate the effects of light, movement and circulation, seeking to stimulate a profound use of the built structure that will provide an experience beyond that of sheer skeleton and fabric. Often, an architectural scheme will conform to the order, grid and general geometric rules that assemble forms, spaces and functions into a unified structure.[3] Castle design, in particular, responds to all of the previous: function and purpose rule the outline scheme, while identity and place dominate the architectural style and sculptural program. Unifying the two is achieved by clarity of plan and, above all, by the elevations. The more remarkable the program, the more remarkable the impression.

The mid-thirteenth-century castle of Arsur was built with towers, defensive walls, moat and battlemented gates, fine decorated halls and cellars. This was the architectural language of a palatial fortress. The castle (Area F) has been the subject of extensive research and ongoing excavations by the Apollonia-Arsuf Excavation Project team. In this chapter we discuss the architectural program of the castle of

---

[1] Edward Coke (1552–1634), [and each man's home is his safest refuge]. For a man's house is his castle, *The Third Part of the Institutes of the Laws of England* (1628), Ch. 73.

[2] The research for this chapter was conducted as part of the ISF research grant no. 2050/17, headed by Oren Tal. It presented the analysis and results of our fieldwork at the castle during the AP. XXVII G-32/2018; AP. XXVIII G-55/2019 and AP. XXVIII G-62/2020 seasons of excavations at the site, carried out on behalf of the Sonia and Marco Nadler Institute of Archaeology of Tel Aviv University.

[3] Andrea Simitch and Val Warke, *The Language of Architecture: 26 Principles Every Architect Should Know* (Beverly, MA, 2014), 6–7.

DOI: 10.4324/9781003146926-5

Arsur and highlight the means implemented by its builders to validate their status as defenders of the kingdom and lords, as reflected in the castle's alluring architectural expression. This desired recognition as defenders of the Kingdom of Jerusalem is reflected in the seal of Balian d'Ibelin, son of Jean II of Ibelin – who built the castle. The seal displays a battlemented gate-tower flanked by two additional towers, one at each side, and the seigneur himself in full armour mounted on a horse.[4]

Arsur castle is located near the northern edge of the fortified town of Arsur, nowadays in the Apollonia National Park. The construction of the castle was initiated in 1241 by the Ibelin family, as part of the rebuilding of the adjacent town. In 1261 the castle was leased to the Order of St John (Hospitallers), who occupied the site and refortified both town and castle. In 1265, following a 40-day siege, both the fortified town and castle were destroyed by the Mamluks; and no permanent settlement has occupied the site ever since. Extensive remains from the thirteenth century at the site offer information about the daily life of both a noble Frankish family and the Order of St John. In identifying the architectural language of each of these two enterprises, we are now able to assign many of the functions and elements to their original builder, either Ibelinian or Hospitaller.

Chronological order of construction and destruction

At Frankish Arsur, the chronological sequence of construction activities comprised two major periods of Frankish occupation. A Frankish site already since 1101 CE, and an Ibelin property from the early thirteenth century CE, the construction of the castle began only in 1241 CE when Iohan d'Ybelin (John II of Arsur, heir to John of Ibelin the 'Old' Lord of Beirut and Melisende of Arsur, who inherited the lordship in 1236), constable and bailli of the Kingdom of Jerusalem, began work on the castle at the northern end of the walled town. This was the major initial construction project executed at the site. In 1261 CE the castle was leased to the Hospitallers, who refortified both the town and castle. A series of interventions that followed their occupation of the castle can be identified throughout the site and characterise the second phase. Only four years after obtaining the lease, in 1265 the Hospitallers lost their newly fortified town and castle to the Mamluks. Deserted for centuries, Arsur then underwent further changes during the late medieval period and modern era.

While the testimony of Abū l-Fidā' of 1321 CE refers to the site as a deserted place,[5] taxation accounts from the late sixteenth century mention Arsūf as a small village (Qarya), in the district (Liwā') of Nāblus and the sub-district (Nāḥiya) of Banī Ṣa‘ab, with a population of 26 households (thus, about 130 persons).[6] Arsūf most probably relates here to the village situated next to the Haram Sidna (Sayyidnā [our lord]) ‘Alī, around 800 m south of the castle (forming a *Nachbenennung* – transmission of the name – of the actual site of Arsuf), and which was later renamed al-Ḥaram (in the district of Jaffa). A Muslim shrine was erected there, and according to the inscription found on it, it was to commemorate the burial of ‘Ali ibn ‘Aleim, who had fallen heroically in 1081 CE while defending Arsuf from foreign invaders. This pre-Crusader event would seem to relate to the invasion of the Turcomans, who had ravaged Palestine at the time and had also probably tried to conquer Muslim Arsuf. Around two centuries later, during the Mamluk siege of Frankish Arsur, Baybars visited the grave and thereby became identified with the heroic deeds of ‘Ali ibn ‘Aleim. A tradition emerged that Baybars himself had ordered the construction of the *ḥaram*, and that tradition had held for centuries, indeed only recently being discredited. In the late fifteenth century, the shrine, which included a high minaret, underwent substantial repairs and new elements were added, whose ashlars seem to have originated in the town and castle of Arsur. A tower was built above its western hall, a well was dug in the courtyard and the wooden tomb was faced with marble. In the seventeenth century another tradition was established connecting Sidna ‘Ali with Noah’s son Japhet. This attracted many women of the Muslim, Christian or Jewish faith who were infertile or maltreated by their husbands to come here to seek relief by means of religious devotion.[7] Both the *ḥaram* complex and the adjacent village re-used building materials from Arsur’s Frankish (and earlier) building remains, hence expediting the castle’s intermittent episodes of dismantling and desolation.

---

[4] Sebastiano Paoli, *Codice diplomatico del sacro militare ordine Gerosolimitano oggi di Malta*, I–II (Lucca, 1733–1777), 185–188, Pl. 6:64.

[5] "Arsuf, in Filastin, was a populous town, with a castle. It lies on the coast of the Greek Sea, 12 miles from Ar-Ramlah, 6 miles from Yafa and 18 miles from Qaisariyyah. It had a market, and it was surrounded by a wall; but at the present-day the town is in ruins and there are no inhabitants" (Abū l-Fidā', *Taqwīm al-Buldān* [Paris, 1848], p. 239; see also G. Le Strange, *Palestine under the Moslems: A Description of Syria and the Holy Land from A.D. 650 to 1500* (London, 1890), 339.

Other accounts regarding the site being used as a quarry for building materials are connected to Jaffa: the transfer of building stones for construction is attested to in the mid-nineteenth century, as can be understood from the writings of the American traveller W.F. Lynch.[8] Such use, however, may had begun even earlier, in the early years of the century, when Muhammad (Abu Nabbut) Agha (1807–1818) was responsible for a large number of building projects in Jaffa. The site of Apollonia-Arsuf played a role during World War I, when a new battle line was formed by the British troops at the site on 22–23 December 1917. The evidence for this new line and the entrenchment there of the troops is given in various personal writings and in aerial photographic evidence, showing the troops’ emplacement and training at the site from late December 1917 to September 1918.[9] Following World War 1, the site not only remained in the state of destruction and alterations that had been carried out to make it a military post, but also continued to be used as a quarry for building materials for the village adjacent to the Sidna ‘Ali Mosque.[10] In 1946 the District Commissioner R.H.C. Greig opposed a proposal to establish a sports club at the antiquities site of Arsur.[11] Unlike other sites that were later promoted as museums such as ‘Atlit Castle or accommodated government facilities such as the central prison located within the Hospitaller Compound at Acre, Arsur was mostly left alone. The main reason for this may well have been the condition of the site and the efforts needed to clear it of the “large masses of walling lying about . . . impossible without extended stay and excavation to obtain a plan of the site”.[12]

---

[6] Wolf-Dieter Hütteroth and Kamal Abdulfattah, *Historical Geography of Palestine, Transjordan, and Southern Syria in the Late 16th Century* (Erlangen, 1977), 140.

[7] Cf. Israel Roll, “Introduction: History of the Site, Its Research and Excavations,” in *Apollonia-Arsuf: Final Report of the Excavations I: The Persian and Hellenistic Periods (Tel Aviv University, Monograph Series of the Institute of Archaeology 16), Israel Roll and Oren Tal* (Tel Aviv, 1990), 18 (with additional bibliography in footnote 38); see also Hana Taragan, “The Tomb of Sayyidnā ‘Alī in Arṣūf: The Story of a Holy Place,” *Journal of the Royal Asiatic Society* 14 (2004), 83–102.

[8] “lading with stones from the ruins, to be taken to Jaffa” cf. W.F. Lynch, *Narrative of the United States’ Expedition to the River Jordan and the Dead Sea* (London, 1849), 456.

Archaeological excavations at Arsur: methodology and finds[13]

Seasons 2018–2020 continued the excavations in the western part of the castle (hereafter the ‘western façade’) from 2009, 2010 and 2012, during which at least three halls – northern, central and southern – had already been identified during the 1998–2000 survey and excavations of the castle (Figure II.4.1).

---

[9] The testimony of a man who fought at Apollonia-Arsuf is recorded in E. Thompson, *Crusaders' Coast* (London, 1929), 24–25: “Vaults and masonry, that served us for makeshift trenches, are overgrown with datura and scrub; . . . Will the archaeologist of later ages, examining pillars and tumbled castle, think of us who burrowed in rock-tombs and hid in caves at the cliff root, while the 5,9’s [i.e. 150 mm cannon] rapped on the flowery pastures overhead?” Another testimony on Apollonia-Arsuf is documented in W.T. Massey, *How Jerusalem Was Won: Being the Record of Allenby's Campaign in Palestine* (London, 1919), 235–236: “At a later date, when digging at Arsuf, these Scots came across some marble columns which had graced a hall when Apollonia was in its heyday. The glory of Apollonia has long vanished, but if in that age of warriors there had been a belief that those marble columns would someday be raised as monuments to commemorate a great operation of war the ancients would have had a special veneration for them. Three of the columns marked the spots where the Scots spanned the river, and it is a pity that they cannot tell the full story to succeeding generations.” Indeed these Proconnesian marble columns that probably originated in a Byzantine Apollonia/Sozousa became three memoranda on which inscriptions were carved commemorating the deeds of the 155th, 156th and 157th Brigades of the 52nd (Lowland) Infantry Division against the Turks, while crossing the Yarkon (Nahr el ‘Auja) river, erected in three different respected locations of the crossing, i.e. at Tell Qudadi (on the north bank of the Yarkon estuary), Kikar Hill (Giv‘at Beth HaMitbaḥayim) and Ramat Gan (at the intersection of Ben Gurion and Aba Hillel Streets), and visible to this day. It can be added that several YouTube videos on the troops stationed at the site can be found under “arsf” and “arsf1,” supplementing our knowledge (cf. www.youtube.com/watch?v=7WL1HMp1HRE; www.youtube.com/watch?v=qLmMk0V1dTk).

[10] Arsuf, ATQ 190 (54/54) Letter on behalf of the director of Antiquities dated 20.12.1927 to the District Commissioner claiming that stones were being taken from the ruins of Arsuf. SRF 9, report from 15.5.1945 stating: “A few architectural scattered fragments in the village. Some of the houses contain stones of medieval appearance and were probably originally brought from Apollonia-Arsuf.”

[11] Arsuf, ATQ 190, reference number 58/46 letter of 22 May 1946.

[12] Arsuf, SRF 9 (53/53).

[13] The excavations were part of an Israel Science Foundation (ISF) funded project, ‘Contextualizing the Architectural Language of the Military Orders: Reconstructing the Frankish Crusader Castle of Arsur in Light of Its Recently Discovered Chapel’ (Research Grant No. 2050/10).

The three interconnected halls are only partially preserved due to stone robbing throughout the centuries and erosion caused by disintegration of the sea cliff (Figures II.4.1, II.4.2). The halls border the central courtyard of the castle from the west. A massive polygonal structure (the 'donjon') projects eastwards from the central hall into the courtyard. Abutting this massive structure on the south side is a wide staircase that ascends westward from the castle courtyard.

At the beginning of these excavations, the methodology followed a grid plan of 10 x 10 m squares. Following the complete uncovering of the castle walls, the strategy was to reach and expose the Mamluk destruction layer (1265 CE), without dismantling the original layout of the castle established in the early 1240s' or early 1260s' Hospitaller amendments (i.e. modifications and refortification). Apart from uncovering the extent of the castle walls' layout, the annual excavation seasons all yielded considerably large and well-dated assemblages of Frankish

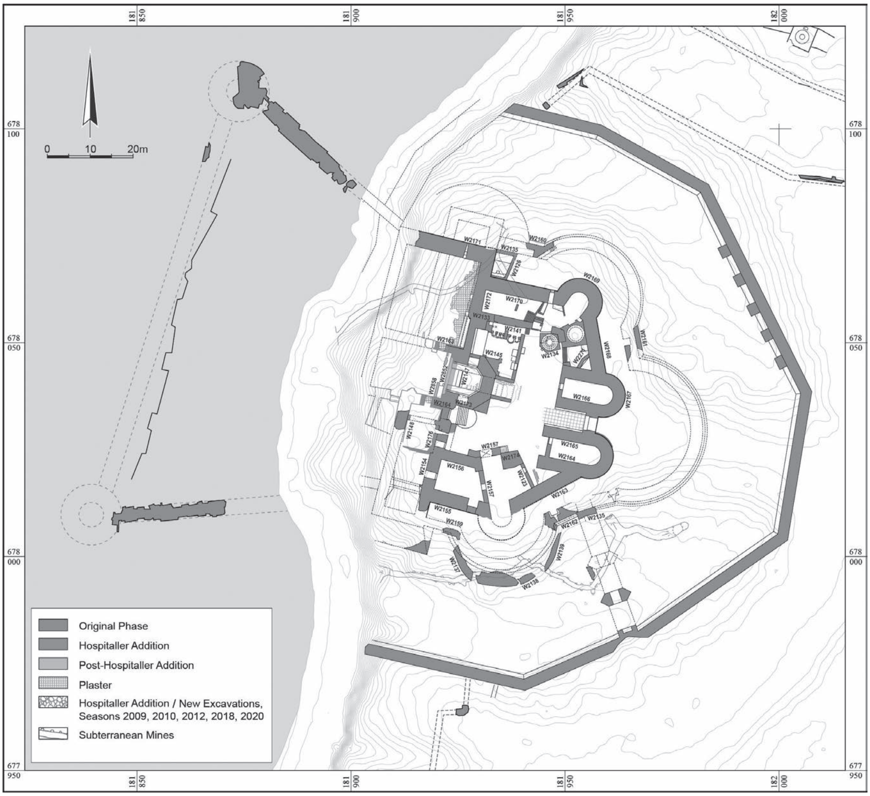

181 850
181 900
181 950
182 000
678 100
678 050
678 000
677 950
0
10
20m
W2171
W2135
W2160
W2126
W2169
W2172
W2170
W2133
W2141
W2161
W2163
W2145
W2134
W2168
W2852
W2858
W2147
W2166
W2167
W2164
W2173
W2148
W2176
W2157
W2165
W2174
W2154
W2156
W2123
W2163
W2155
W2162
W2159
W2139
W2137
W2138
Original Phase
Hospitaller Addition
Post-Hospitaller Addition
Plaster
Hospitaller Addition / New Excavations, Seasons 2009, 2010, 2012, 2018, 2020
Subterranean Mines

Figure II.4.1 Arsur: the castle. © Apollonia-Arsuf Excavation Project

artefacts, including pottery,[14] glass,[15] metal artillery,[16] coins,[17] lead tokens[18] and animal bones.[19] Several additional studies focused on its maritime installation[20] and architectural elements.[21]

Our 2018–2020 archaeological probes uncovered evidence of both the castle's construction phase in 1241 CE and the phase of modifications and refortification that followed its lease to the Hospitallers in 1261 CE. These two major enterprises left an architectural combination, which the 2018–2020 excavations sought to better understand by examining the extent of the functional alterations and architectural interventions carried out by the Hospitallers. Additionally, the excavations sought to identify the location of the castle chapel by analysing the architectural finds and reconstructing their original location and setting, as most of them had been found in the debris of the castle's destruction layer. Thus, the 2018–2020 excavations were focused on the unearthing of two of the halls of the castle's western façade: the central and the northern halls, in which it was hoped to find answers to the two major research questions of the project, as noted earlier; leaving the hall on the south to future field seasons (Figure II.4.2).

Although only scarce remains of the chapel have survived *in situ* – it was probably destroyed by the Mamluks and suffered from the post-Frankish systematic stone robbing of the site – several indications point to its location in the donjon upper level, allowing for the apse to be located in the eastward-projecting facade. The indications include the hall's plan within the western façade, the polygonal plan donjon with the apse of the chapel on its east and the location and direction of the adjacent staircase, as well as the numerous architectural and sculptural elements discovered since 2009 among the debris of the halls located along the castle's western façade.

---

[14] Oren Tal, ed., *The Last Supper at Apollonia: The Final Days of the Crusader Castle in Herzliya* (Tel Aviv, 2011).

[15] Ruth-Eve Jackson-Tal and Oren Tal, "Crusader Glass in Context: The Destruction of Arsur (Apollonia-Arsuf, Israel), April 1265," *JGS* 55 (2013), 85–100.

[16] Dana Ashkenazi, Oz Golan and Oren Tal, "An Archaeometallurgical Study of 13th-Century Arrowheads and Bolts from the Crusader Castle of Arsuf/Arsur," *Archaeometry* 55 (2013), 235–257.

[17] Oren Tal, Robert Kool and Issa Baidoun, "A Hoard Twice Buried? Fatimid Gold from Thirteenth Century Crusader Arsur (Apollonia-Arsuf)," *NC* 173 (2013), 261–292.

[18] Robert Kool and Oren Tal "'Underground' Money in an Outremer Estate: Token Molds and Lead Tokens from Crusader Arsur," *INR* 10 (2015), 215–228; idem, "Another Token Mold and Lead Token from Crusader Arsur (Apollonia)," *SNR* 98 (2020), 215–222.

[19] Miriam Pines, Lidar Sapir-Hen and Oren Tal, "Crusader Diet in Times of War and Peace: Arsur (Israel) as a Case Study," *OJA* 36 (2017), 307–328.

[20] Daniel Mirkin, *Sailing to the Holy Land: Crusader Ships, Seamanship, Logistics and Landing Operations*, BAR International Series 2904 (Oxford, 2018); Dan Mirkin, Deborah Cvikel and Oren Tal, "Arsur Castle Maritime Installation (1241–1265 CE)," *PEQ* 148 (2016), 294–312.

[21] Vardit R. Shotten-Hallel, Hagi Yohanan and Oren Tal, "The Castle Chapel of Arsur – New Evidence for Its Location and Architecture," in *Crusading and Archaeology: Some Archaeological Approaches to the Crusades*, eds. Vardit R. Shotten-Hallel and Rosie Weetch, Crusades – Subsidia 14 (London, 2021), 369–400.

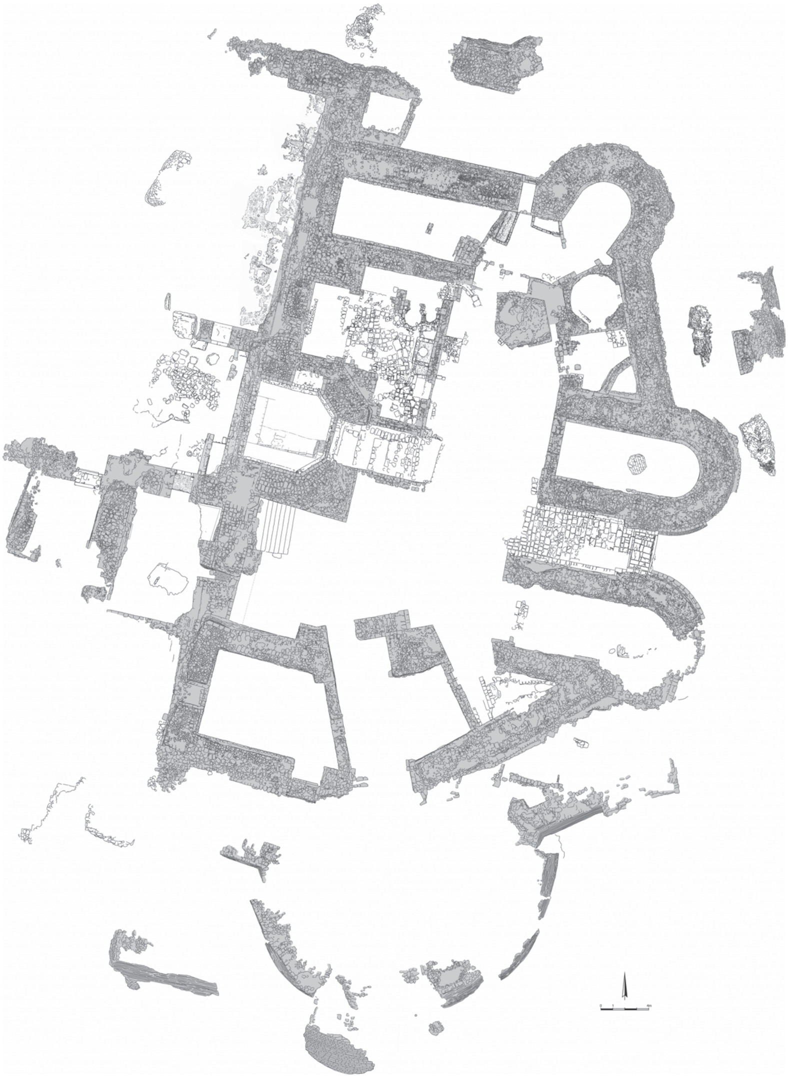


Figure II.4.2 Arsur: the castle: inner plan. © Apollonia-Arsuf Excavation Project

The excavation in the central hall yielded two superimposed floors – reflecting the two periods of construction in the castle's history (Figure II.4.3): a flagstone pavement, probably constructed in the 1240s, covered by a plaster floor, apparently from the Hospitaller occupation.

Several architectural and sculptural elements were found in the fills above the plaster floor (Figure II.4.4). The study of these, along with over 70 architectural

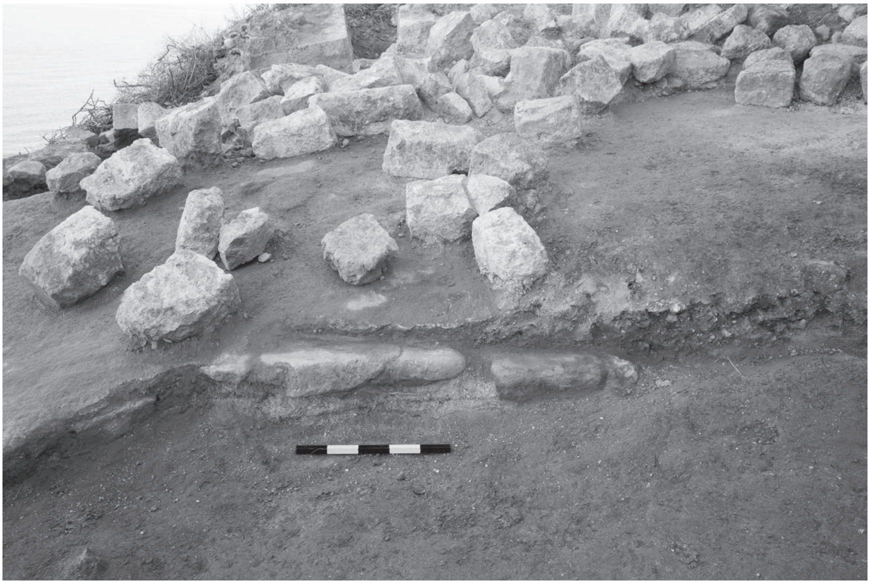


Figure II.4.3 Arsur: the castle: western façade, central hall: two superimposed floors. © Apollonia-Arsuf Excavation Project

elements uncovered in previous excavation seasons, made it possible for the first time to reconstruct the chapel's external layout following the renovations by the Hospitallers, and to differentiate among the different phases of construction. Furthermore, these elements attest to the chapel's exquisite architectural language, as exemplified by a unique jamb capital, which probably originated from the portal of the principal entrance to the chapel, as well as by the fragments of the stone window frames and the stained-glass windowpanes that probably came from a rose window.[22]

The upper floor was associated with several additional architectural alterations carried out by the Hospitallers, among them the narrowing of the central hall openings on the south and north. In addition, we identified several alterations carried out on the ground floor of the building that may reflect the adaptation of the spaces in the castle to suit the daily conduct of the Hospitallers. These alterations could represent, among other aspects, the Hospitaller reliance on supplies from the sea – commodities and personnel – which would have differed from the needs of the members of the nobility who had occupied the castle before 1261 and had received their supplies and services from the town. The burnt wooden beams preserved on the plaster floor could be associated with the 1265 destruction of the castle. An analysis of similar beams in other parts of the castle has identified the wood as cedar (*Cedrus libani*).[23] A threshold uncovered in the south-western corner of the hall (Figure II.4.4), allowed us to identify for the first time an outer ramp, which probably led from the central hall to the seashore. Ascribing the threshold to the 1241 phase and contextualising its position were aided by the typology created for all the thresholds in the castle, and their classification according to the construction phase (1241 or 1261) and type of space (interior or exterior).

---

[22] Shotten-Halle et al., "The Castle Chapel of Arsur," 386–394.

In the excavation in the northern hall we uncovered the remains of a stable. A plastered stone shelf along its eastern wall (c. 8 m long, 0.8 m high and 0.4 m thick) was found, with incorporated linking rock-cut stones and the remains of plastered troughs on top of it (Figure II.4.5). Drainage holes were exposed in the plaster floor of this hall, indicating the collection of liquids, probably horse urine. The hall is c. 20 m long and 8 m wide. A number of installations covered with soot marks found on top of the hall's plaster floor and stone shelf, indicate cooking activities during the Mamluk siege imposed in March–April of 1265 by Baybars, when the site became a refuge for the Hospitaller Knights, as well as for inhabitants of the town and lordship.

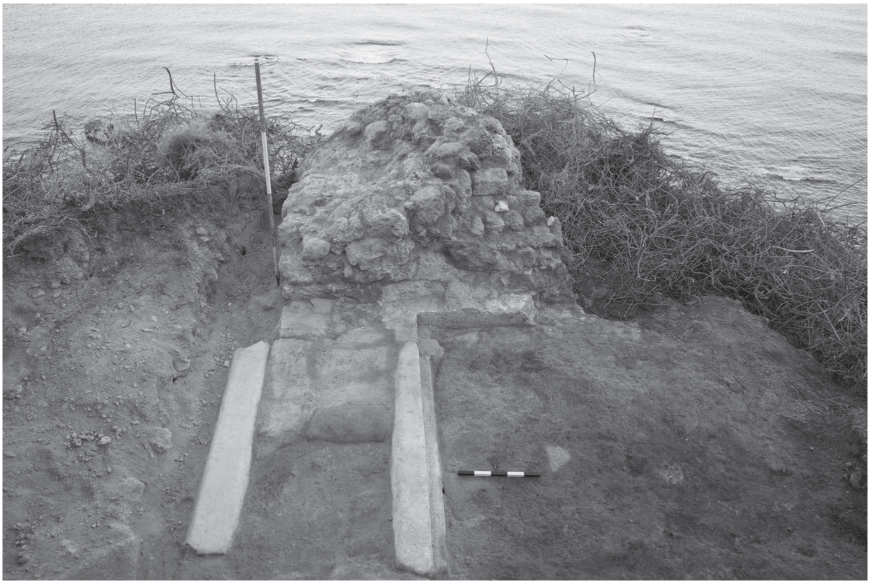


Figure II.4.4 Arsur: the castle: western façade, central hall: a threshold uncovered in the south-western corner of the hall. © Apollonia-Arsuf Excavation Project

---

[23] Nili Liphshitz, *Timber in Ancient Israel: Dendroarchaeology and Dendrochronology*, Tel Aviv University, Monograph Series of the Institute of Archaeology 26 (Tel Aviv, 2007), 42.

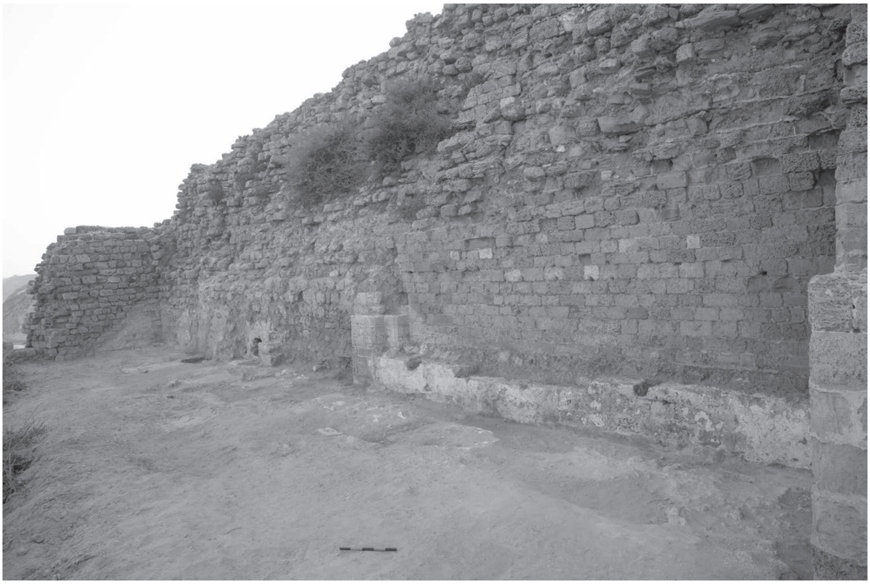


Figure II.4.5 Arsur: the castle: western façade, northern hall: stable, view to north. © Apollonia-Arsuf Excavation Project

The Frankish architectural and sculptural elements were accompanied with Byzantine architectural elements, suggesting that *spolia* from Byzantine-period structures were incorporated in secondary use in the thirteenth-century CE construction.[24] Various Byzantine-period *spolia* had been also found in previous excavations in the courtyard and the moat of the castle, with some incorporated into the post-Frankish wall, built against the eastern wall of the excavated area of the castle (see Figure II.4.1; W2852).

Building archaeology

Building archaeology is the discipline that interweaves a wide range of subjects to reconstruct the history of buildings, from their inception to the time of their investigation.[25] Archaeological and functional interpretation of a building are achieved by integrating the metric data and a general description based on the building survey, with a stratigraphic reading, textual sources and iconography and art-historical and stylistic analyses.[26] Recently, Piero Gilento suggested some initial premises for consideration prior to undertaking an effective building archaeology study.[27] The first premise involves identifying the chronological order of the construction activities, the second focuses on the analysis of data provided by the construction itself and is thus considered a direct source of information and the third one specifies the main tools for collecting data: stratigraphy, typology of materials, study of constructive techniques and archaeometric analyses. These methods aided not only in tracing the relative and absolute chronologies of the structure but also enabled the more precise conservation interventions that are a vital part of our project at Arsur Castle.[28] In this study they were adopted for our analysis of the construction chronology at Arsur, in addition to the use of indirect sources like charters and iconographic information obtained from the seal of Balian of Arsur (1258–1261).

---

[24] Moshe Fischer, Dimitris Tambakopoulos and Yanis Maniatis, "Recycling of Marble: Apollonia/Sozousa/Arsuf (Israel) as a Case Study," in *ASMOSIA Interdisciplinary Studies on Ancient Stone: The Proceedings of the XI ASMOSIA Conference, Split 2015*, eds. Daniela Matetić Poljak and Katja Marasović (Split, 2018), 443–456.

Building archaeology at Arsur

The recent excavations of the western façade at Arsur Castle corroborate the initial understanding of the castle's construction phases. Moreover, it is now possible to establish a clear differentiation between the two distinct Frankish phases: the initial construction of the castle by the Ibelin family – Lords of Frankish Arsur, executed around 1241; and the Hospitaller alterations in the years following 1261. The Hospitaller alterations range from structural reinforcements to the original building, to adjustments made to accommodate the new facilities required for their conventional and military use, like the kitchen area in the courtyard.[29] Tracing the Hospitaller alterations to the original Ibelin castle enables a better understanding of its layout and architectural language and the association of the construction elements with certain historical events. Although both were Frankish construction projects, and very close in date, there are considerable differences between the *chastiau* (*château*, *castellum*) of the Ibelins and the modified, refortified Hospitaller castle.

---

[25] Stefano Anastasio, *Building Between the Two Rivers: An Introduction to the Building Archaeology of Ancient Mesopotamia* (Oxford, 2020), 1–8, 124–144.

[26] Manfred Schuller, *Building Archaeology* (ICOMOS, 2002).

[27] Piero Gilento and Stefano Anastasio, *Building Between the Two Rivers: An Introduction to the Building Archaeology of Ancient Mesopotamia* (Oxford, 2020), 125.

[28] For an introduction to the current research project and the national park at Apollonia-Arsur, see Vardit R. Shotten-Hallel et al., "The Castle Chapel of Arsur."

[29] Oren Tal and Israel Roll, "Arsur: The Site, Settlement and Crusader Castle, and the Material Manifestation of Their Destruction," in *The Last Supper at Apollonia: The Final Days of the Crusader Castle in Herzliya*, ed. Oren Tal (Tel Aviv, 2011), 21–36 passim.

Chrono-typology was an additional methodological tool employed in this research, along with archaeological stratigraphy and historical sequencing, to analyse data on the building process and construction methods. Basically, chrono-typology seeks to identify certain construction elements that are distinctively associated with their period of creation. These may include the materials used for these elements, their original function within the system, the technology employed and their dimensions.[30]

Three elements in particular are essential in differentiating between the Ibelin construction phase and the Hospitaller additions. Despite their technical nature, they contribute to the clarity of the architectural language and to establishing a chrono-typology:

1 Gates, portals and passages:

The analysis of several portals from various areas in the castle indicated the chronological order of construction and the *limits* of the Ibelin phase within the castle.

2 Paving throughout the castle:

Chrono-typology of the various floors was used to isolate the earlier Ibelin method of paving, particularly their choice of beachrock for the flagstones, from the later Hospitaller interventions.

3 Masonry walls:

Several practices characterising the construction of masonry walls in the castle separate the Ibelin phase from the Hospitaller phase. They include the size of ashlars, method of pointing (the filling of joints between ashlars) and the use of metal implements (spacers) in the joints to level the ashlar courses. The latter two particularly reflect the pace of construction.[31]

The Ibelin phase

The architectural plan of Arsur Castle as built by the Ibelins presents a residential complex, positioned on a cliff facing the sea and surrounded by a moat. The plan of the castle resembles that of many thirteenth-century castles in Europe, such as in northern France, Belgium, southern England, Scotland and Wales. Arsur predates several castles built by Edward I along the Welsh coast, which featured round towers and moats and enabled direct access to the sea, like Harlech and Beaumaris; but also, Caerphilly Castle, which is surrounded by a moat. Notable examples in France include Fère-en-Tardenois, Aisne and Saint Gobain both built before Arsur. A striking example of a similar design is Kildrummy Castle, first documented in 1296 but certainly built earlier.[32] The Kildrummy Castle floor area stands in contrast to its fortified area, being almost half of it in size: c. 90 m and c. 70 m, compared to c. 180 m east to west and c. 130 m north south. Surrounded by a deep moat and walls built against the cliff, the castle's most prominent features, however, are its semi-circular and semi-polygonal towers: the gate towers to the east and the main tower to the west, where the castle chapel had occupied the upper floor. The chapel was the most spacious hall within the castle, nearly double the space of each of the two towers that formed the gate. Approach to the castle was from both land and sea. From the land, the moat was crossed via a drawbridge to reach a surrounding gallery that followed the perimeter of the castle walls and from which the main gate and the southern and northern gates were approached.

---

[30] I. Ferrando, T. Mannoni and R. Pagella, “Cronotipologia,” *Archeologia Medievale* 16 (1989), 647–661.

[31] For the particular use of these implements, see Dana Ashkenazi, Vardit R. Shotten-Hallel and Oren Tal, “Archaeometallurgical Analysis of Thirteenth-Century Bronze and Iron Construction Implements from the Walls of the Frankish Castle at Arsuf/Arsur,” in *Metallography, Microstructure, and Analysis* (2022), 255–280. https://doi.org/10.1007/s13632-022-00838-x.

The Ibelins were a prominent noble family and for centuries played key roles, first in the Kingdom of Jerusalem and then in the Kingdom of Cyprus.[33] Balian the Elder, father of Hugo, Baldwin and Balian the Younger of Arsur, was castellan of Jaffa when he inherited the castle of Ibelin, and he soon after acquired the lordship of Ramla. Little has been published on the architecture of the family's castles in the Kingdom of Jerusalem. The few remains indicate the location of the castle at Ibelin, but apart from the mention of it once having had four towers and of stones used from old buildings, little can be deduced regarding its architecture and decoration.[34] North of Ibelin were Jaffa and Ramla, of which no Frankish remains have ever been identified as belonging to the Ibelins. Along with their political status, it seems that the Ibelins' taste for extravagance was renowned when it came to their private possessions, monuments or naval vessels. Jean de Joinville, seneschal of Champagne and biographer of King Louis IX, relates how John of Ibelin, Count of Jaffa and Ascalon, realizing that King Louis IX was due to arrive in Jaffa, made sure to make his residence appear like a fortress, placing his coat of arms on every one of the 500 crenellations.[35]

---

[32] M. R. Apted, "Excavation at Kildrummy Castle, Aberdeenshire, 1952–62," *Proceedings of the Society of Antiquaries of Scotland* 96 (1963–64), 208–236.

[33] For a brief overview, see Peter Edbury, "Ibelins," in *The Crusades: An Encyclopaedia*, ed. Alan V. Murray, vol. 2 (Santa Barbara, 2006), 623–625.

[34] WT 15.24, pp. 706–707. *Guillaume de Tyr et ses continuateurs. Texte français du XIII^{e} siècle*, ed. Paulin Paris, vol. 2 (Paris, 1879–80), 83. See Kedar this volume. https://books.google.co.il/books?id=hC9pd-oeZWkC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=snippet&q=arsur&f=false.

[35] For the display of the family coat of arms in two different opportunities, see John of Joinville, *Histoire de Saint Louis*, ed. N. de Wailly (Paris, 1868), cap. 34 for the display on a galley in Damietta and cap. 100 for the display of [probably] hundreds of them on the crenellations of Jaffa: *Quand le comte de Jaffa vit que le roi venait, il mit son château en tel etat q'il semblait bien que ce fut une*

The Ibelins also owned a palace in Beirut, built by John of Ibelin I. An earlier description of the palace by Wilbrand of Oldenburg, dated to 1212, very clearly illustrates the family's taste for grandeur.[36] No actual remains of the Beirut or the Jaffa palaces survived following their destruction by Saladin (1187) and Baybars (1268), and the only still-standing domicile of this family in the East remains their property in Arsur. The archaeological remains of Arsur Castle, more than anything else, conform with the image that emerges from the description of the Beirut palace, even though such comparison is clearly anachronistic.[37] Several passages from that description can serve as a hypothetical background to the imagined profile of a fortified castle built by John II of Arsur: First, "It is a very strong castle." Further, the details of the position of the castle and the particulars of the walls are also compatible with those of Arsur:

> For on one side it is defended by the sea and a high precipice of rock and on the other side it is encompassed by a ditch, walled and so deep. . . . This ditch is overlooked by two strong walls, on which very strong towers have been erected against the assaults of machines.

Despite fierce and constant attacks, the castle of Arsur evidently held for some 40 days during the siege of 1265.[38] A 30-m-wide moat separated between the walls of Arsur Castle and the adjacent town. The bridge leading from the town across the moat to the castle ended at its southern edge. To reach the front gate one had to take the passage to the eastern face where the main gate was located, flanked by the two towers. These were probably ornate halls, perhaps serving as audience halls, like the one described in Beirut:

> In one of them, we saw a very ornate hall. . . . It is strong from the foundations and well sited, overlooking on one side the sea and the ships passing to and from it, and on the other meadows, orchards and most delightful places.

In his description of the Beirut hall, Wilbrand notes that it has a subtle marble pavement: "In the middle of the hall, at the central spot, is a pool lined with

---

place défendable: car à chacun des créneaux (et il y en avait bien cinq cents) il y avait une targe à ses armes et un drapeau, laquelle chose fur belle à regarder: car ses armes étaient d'or. See also Peter W. Edbury, *John of Ibelin and the Kingdom of Jerusalem* (Woodbridge, 1997), 3–4.

[36] Denys Pringle, "Wilbrand of Oldenburg's Journey to Syria, Lesser Armenia, Cyprus, and the Holy Land (1211–1212): A New Edition," *Crusades* 11 (2012), 109–137.

[37] For a detailed interpretation of the Ibelin palace in Beirut, see Lucy-Anne Hunt, "John of Ibelin's Audience Hall in Beirut: A Crusader Palace Building between Byzantine and Islamic Art in its Mediterranean Context," in *The Emperor's House: Palaces from Augustus to the Age of Absolutism*, eds. Michael Featherstone and Jean-Michel Spieser (Berlin, 2015), 257–292.

[38] Reuven Amitai, "The Conquest of Arsuf by Baybars: Political and Military Aspects," *MSR* 9 (2005), 61–83.

variegated marble, in which the marble is put together from panels of different colour. . . . In the centre a dragon".

At Arsur, architectural elements from the Roman and Byzantine periods were evidently in intense use throughout the Ibelin castle, in the core of the walls as fillers and, more importantly, as architectural elements. Thus, the use of marble slabs or tiles cannot be ruled out in an environment rich in Roman and Byzantine *spolia*. Israel Roll, who excavated the site between 1998 and 2000, identified fragments of a few marble tiles in the middle of the northern gate tower. Assuming some significance for the centre of the hall, Roll also pointed out the geometrical forms imprinted in the plaster floor, possibly the foundation layer for marble tiles, indicating an *opus sectile* floor just as Wilbrand describes, or the foundations for a central element that once stood in this hall.[39] A rather large number of fragmentary tiles of marble and other imported stones have been recorded by Moshe Fischer and the Apollonia-Arsuf Excavation Project team in recent years and will be part of a final report concerning the use of marble and other worked stones at the site. Some of these tiles were probably used for *opus sectile* floors of the Byzantine church uncovered at the site and for other architectural elements belonging to this church.[40]

The description of the fountain in the Beirut hall explicitly mentions: "In the centre a dragon, which seems about to devour the animals depicted there". Dragons, like the one from the Beirut fountain, and other mythological monsters and fantastic beasts, were frequently incorporated into secular and monastic buildings.[41] The lintels of the Holy Sepulchre featured images of hybrids, such as a siren and a centaur.[42] In Caesarea, two apes adorned the entrance of a gate tower located in the north-east corner of the town walls.[43] At Arsur there seems to be evidence of the incorporation of mythological creatures into the design. A jamb capital, found during the excavation of Area F below the castle chapel in the western area, shows the remains of two hybrid creatures identified as basilisks, gripping with their claws a male head, probably an atlant.[44] Although this jamb capital is thus far the only sculpted element found from the chapel, it is highly probable that the other capital in the portal, probably the principal entrance to the chapel, was also decorated with similar creatures. Due to the lack of any evidence of Hospitaller intervention in the construction of the chapel, the sculpture is inevitably associated with the Ibelin phase of construction.

---

[39] Israel Roll, "The Encounters of Crusaders and Muslims at Apollonia-Arsuf as Reflected in the Archaeological Finds and historical Sources," in *The Encounters of Crusaders and Muslims in Palestine*, eds. Israel Roll, Oren Tal and Michael Winters (Tel Aviv, 2007), 9–103, at 61–62. Frankie Snyder identified *opus sectile* floors in various churches across Jerusalem as Frankish. See Frankie Snyder, "Watch Where You Walk: A Study of Crusader-Era Opus Sectile Floors in Churches in the Jerusalem Area," *Near East Archaeological Society Bulletin* 64 (2019), 57–74.

[40] See Fischer et al., "Recycling of Marble".

[41] Zehava Jacoby published a photo of a siren on an abacus with foliate design and figures, from the Islamic Museum in the Temple area, Jerusalem. See Zehava Jacoby, "The Workshop of the Temple Area in Jerusalem in the Twelfth Century: Its Origin, Evolution and Impact," *Zeitschrift für Kunstgeschichte* 45 (1982), 325–394.

[42] For an updated review of the topic see Gil Fishhof, "Centaurs in Contexts: The Eastern Lintel of the Church of the Holy Sepulchre, Crusading Spirituality, Agency and Society in the Latin Kingdom of Jerusalem," *Mediaevistik* 32 (2019), 159–199.

[43] See Vardit R. Shotten-Hallel, Jean Mesqui and Uzi Ad, "Three Main Towers of Medieval Caesarea: Architecture, Their Role and Function," in *Poliorcetics: The Art of Siege and Warfare from the Classical World to the Middle Ages*, eds. Rabei J. Khamisy and Michael Eisenberg (Oxbow, 2020), 189–212, at 198, 208.

Gates and portals

The first elements serving for a comparison of the first phase of construction are the entry points to the Ibelin castle.

1. *Main portal:*
   The main entrance to Arsur was from the east, accessed via a gallery that surrounded the castle. The entry complex comprised two apsidal towers facing east, with a passage set between them. The walls of the northern gate tower are preserved to a height of 1.5 m, with the remains of the core rising well beyond it to a maximum of 4.5 m. Most of the apsidal end of the southern gate tower has been destroyed; and the remains of a fierce fire are evident on the walls. The passage between the two towers is paved with

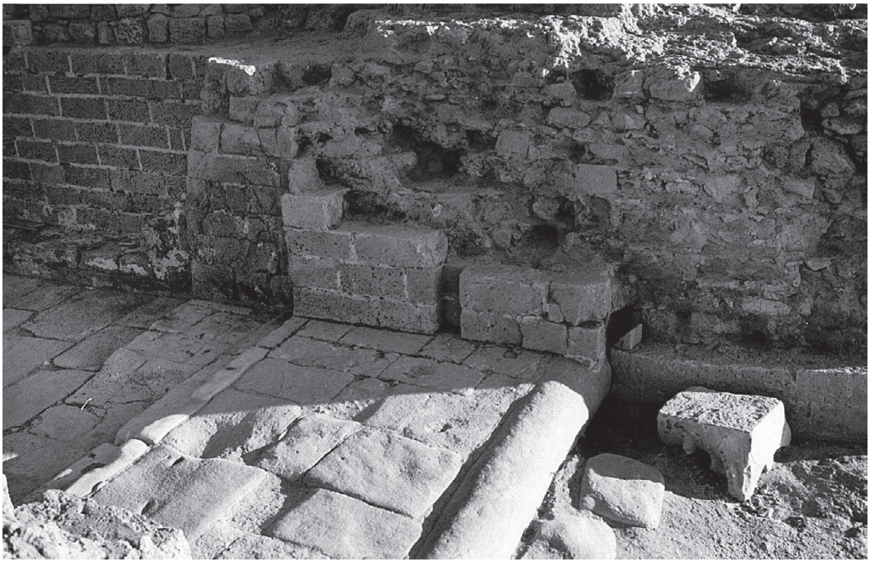


Figure II.4.6 Arsur: the castle: main entry, looking north-west. A paved passage, flagstones set between two marble columns, reworked to serve as a threshold and a step. © Apollonia-Arsuf Excavation Project

flagstones of beachrock set between spolia of imported marble columns that were reshaped to serve as threshold (east) and a step (west, Figure II.4.6). Rectangular cavities were carved at each end of the columns to hold the door hinges. Two pillars that narrow the passage are located between the columns. A narrow (15 cm) slot enabled the use of a portcullis.

---

[44] Shotten-Hallel et al., “The Castle Chapel of Arsur,” 389–393.

2 *Sea portal*:
Excavation of the area below the castle chapel revealed a monumental entrance leading from the southern halls of the castle on the cliff face (Figure II.4.7). Clearly an entrance from the Ibelin phase, it was used to access the castle from the lower halls via a ramp that stretched across the cliff. Indication of the ramp was found just south of this gate. A few courses of talus are preserved along the wall set against the cliff.

3 *Additional passage within the walls from the Ibelin phase:*
From the seashore, the walls extending to the sea enclosed an area that appears to have been a shallow maritime installation, allowing small boats to anchor.[45] The remains of the southern wall housed a vaulted passage. A rare view of this southern passage inside the vault is depicted in a photograph from around 1945 (Figure II.4.8). A corner segment of this wall with the staircase built inside it farther down the beach can still be seen today. The staircase had once led from the outer wall into the enclosed area on the seashore.

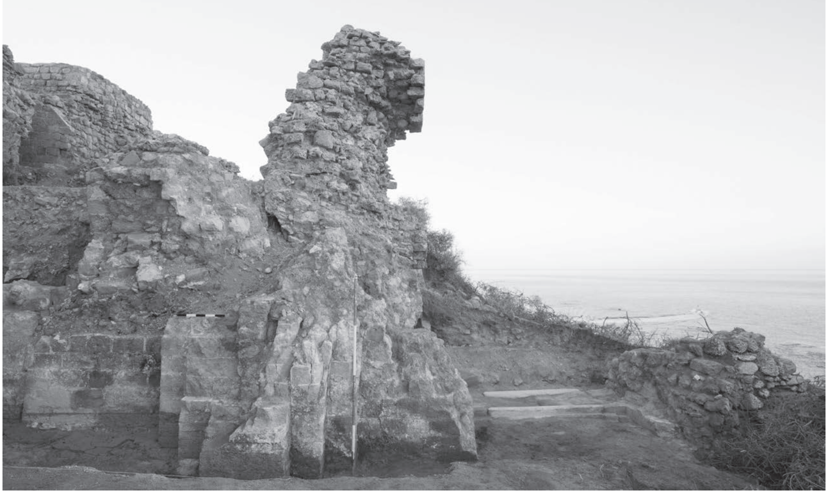


Figure II.4.7 Arsur: the castle: western façade, central hall: excavation of the area below the castle chapel revealed a monumental entrance leading from the southern range of the castle on the face of the cliff. © Apollonia-Arsuf Excavation Project

---

[45] Mirkin, *Sailing to the Holy Land*; Mirkin et al., "Arsur Castle Maritime Installation."

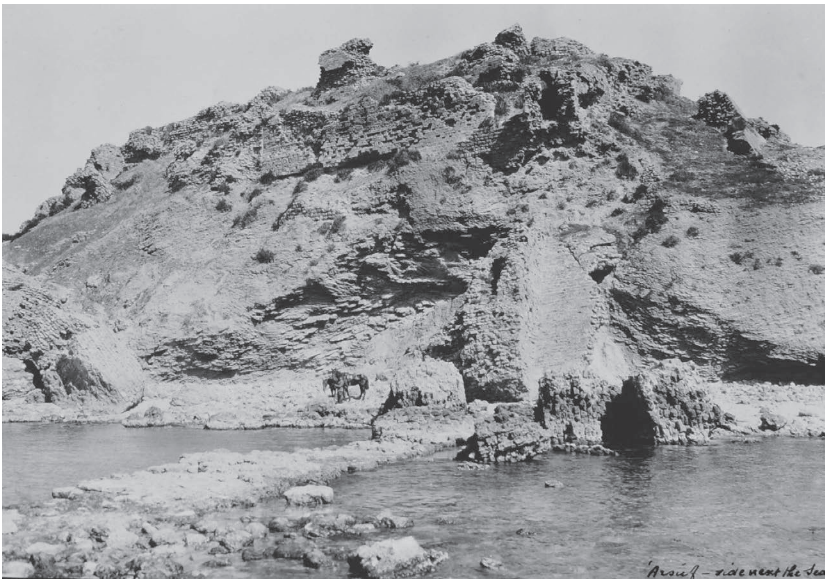


Figure II.4.8 IAA Scientific Record Files (SRF) 9. Arsur castle, view to north-east. © Apollonia-Arsuf Excavation Project

Paving

Throughout the Ibelin castle, various areas were paved with beachrock slabs. Similar slabs were also used for staircases, such as for the two staircases leading from the courtyard to the chapel and the western range, as well as on the thresholds of main portals. The threshold of the main gate to the castle (see Figure II.4.6) comprised large slabs of beachrock set between two marble columns. The columns, originally round, were truncated to form a doorstep. The reuse of marble elements was not confined to the entry points that were identified as typical to the Ibelin structure at Arsur and which comprised marble columns integrated into the portals' threshold. Capitals and columns found during excavation of the courtyard and that were probably re-used in the construction of the chapel, and perhaps in other buildings too, were also made of marble. Indeed, the only capitals found thus far at Arsur are all made of marble, and all of them have been dated to the fifth–sixth centuries CE. Some of the other architectural items, mainly Ionic-Attic bases, are based on Roman prototypes, but their design is clearly Byzantine. Many of these bases were reshaped to fit them to their new function: they were truncated to about half or a quarter of their original size and reshaped in the form of a jamb.[46]

---

[46] See Fischer et al., "Recycling of Marble," 448, Items 12 and 16.

Masonry walls: ashlars and joints

The masonry walls of Arsur are surprisingly consistent in stone size. The external walls of the castle, its interior walls, the counterscarp and the surrounding moat were all built using small-size sandstone ashlars. The wall surface of interior spaces was plastered, although very little of it survived. Some plaster has been preserved on the face of the west wall in the northern gate tower, where we also identified several graffiti. Iron spacers were used throughout the castle: at the refectory, north-eastern lower hall, exterior walls and the passage to the hall beneath the chapel. After the wall was completed, the joints were covered with a thin band of white plaster, emphasizing the block size (Figures II.4.9a, II.4.9b).

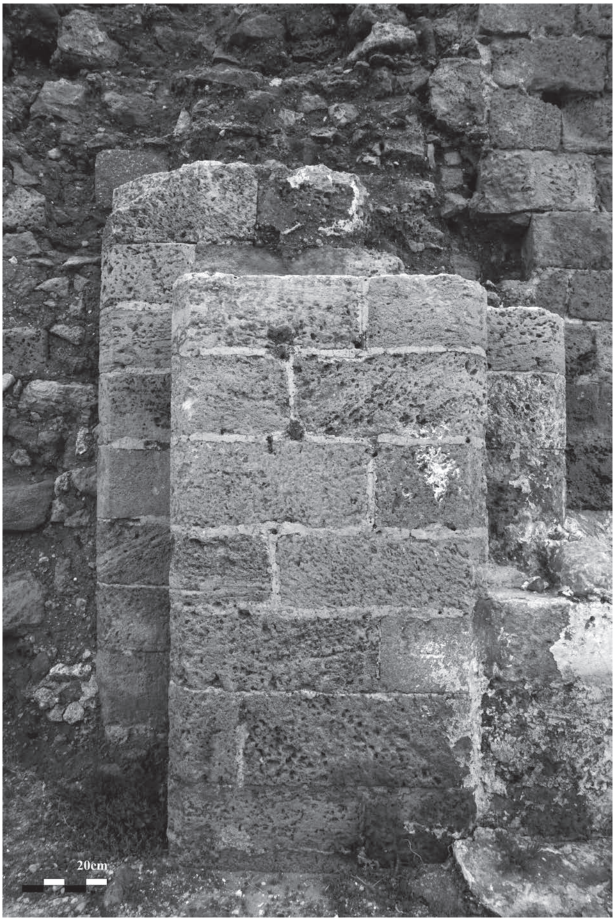


Figure II.4.9a Arsur: the castle: western façade, central hall: view of a wall from the Ibelin phase of Arsur showing pointing method and the plaster lace over the joints, looking south. © Apollonia-Arsuf Excavation Project

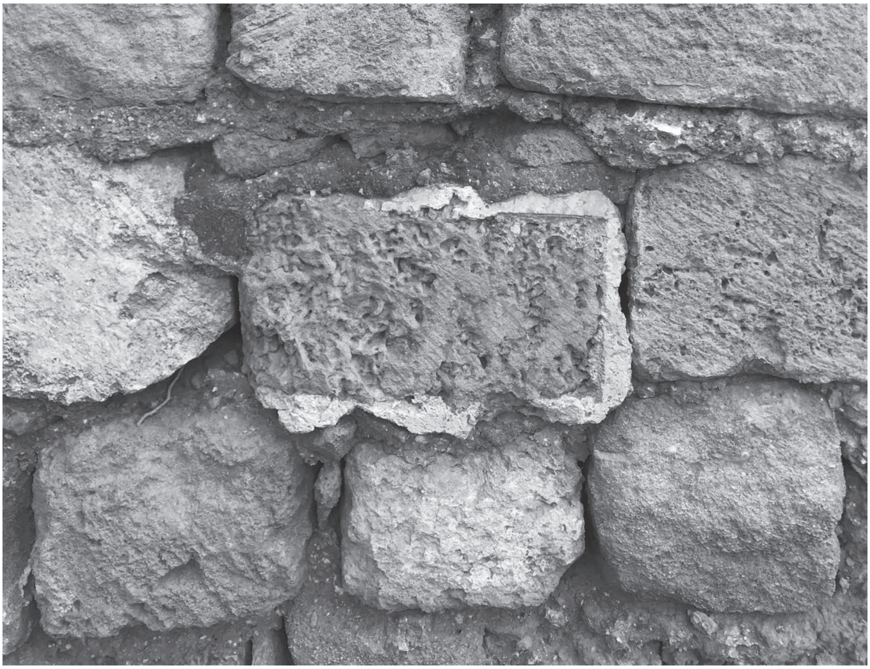


Figure II.4.9b Arsur: the castle: western façade, central hall: a stone block preserving much of the plaster lace around it in secondary use in a modern building. © Apollonia-Arsuf Excavation Project

A particular element mentioned by Wilbrand would fit many other Frankish castles, but not Arsur: "and their large stones are bound together at the joints with large iron bands and hard braces".

Securing masonry walls of large ashlars with iron clamps was a common practice in both twelfth-- and thirteenth-century castles, in the East as much as in the West. Recent studies have confirmed the use of large amounts of iron or steel in the construction of cathedrals and churches.[47] The use of metal was evidently integral to the initial design and construction of medieval buildings and has been documented for the twelfth-century construction of the Hospitaller castle of Belvoir and the thirteenth-century ‘Atlit and Montfort castles.[48] The walls of Arsur, however, were built using relatively small ashlars (not exceeding 50 cm in length) for the interior walls and the exterior façades, thus eliminating the need for clamps or staples. In this, Arsur differs from many other sites, such as ‘Atlit Castle, Belvoir and Montfort, where securing the masonry of the exterior walls was mandatory. The castle ashlars probably came from quarrying in the fossilised dune sandstone of the site’s coastal ridge, from the so-called Tel Aviv Kurkar Bed – a beach dune Aeolian deposit of semi-cemented to fully cemented calcareous grain rock embedded with some terrestrial snails.[49] Given the rock characteristics (particularly porosity), larger-sized ashlars would probably have tended to break during transport and building operations. Albeit unusual for Frankish castle construction methods, the type of sandstone in the quarries providing the construction materials also prevented the extraction of large blocks. The common ashlars used for external facades in Frankish masonry were of considerable size, ranging between 60 and 250 cm in length, 30–80 cm in height and often more than 60 cm deep. Although there was no need for staples or clamps to secure the small blocks used at Arsur Castle, metal elements were not entirely absent from the construction, as discussed later. At Belvoir Castle, the Hospitallers used at least six tons of iron to reinforce its walls.[50] During the 2015 season of the archaeological excavations at Belvoir, dozens of clamps were detected, binding boulders together in the east wall of the inner castle. If systematically used, the total number of clamps for the glacis could have exceeded 200.[51] Examination of a clamp preserved intact in the IAA storage revealed its size and weight: length: 35 cm; prongs: 8 cm; section: 4 x2 cm; weight: 2.1 kg. The remnants of iron cramps used for a similar function, but of much smaller dimensions, have also been found at other Frankish castles. At Montfort Castle cramps found by the Metropolitan expedition measured up to 20 cm, with anchors (prongs) of 5.5 cm.[52] To level the stone courses, the builders of Belvoir Castle used a standard method of inserting thin basalt chips (3–10 mm) into the joints between the limestone blocks, and occasionally joints less than 5 mm wide. This method was implemented only on the walls built of nodular limestone and does not appear to have been applied on walls constructed in basalt.[53]

---

[47] Considerable amounts of iron or steel for reinforcements, such as staples (parts embedded between two ashlars to hold them together), chains (metallic armatures to make the walls more rigid) and tie-rods (metal bars used to prevent the structure from shifting). See Stéphanie Leroy, Maxime L'Héritier, Emmanuelle Delqué Kolic, Jean-Pascal Dumoulin, Christophe Moreau, Philippe Dillmann, "Consolidation or Initial Design? Radiocarbon Dating of Ancient Iron Alloys Sheds Light on the Reinforcement of French Gothic Cathedrals," *Journal of Archaeological Science* 53 (January 2015), 190–201. https://doi.org/10.1016/j.jas.2014.10.016.

---

[48] For Montfort see also Adrian J. Boas, “Stone, Metal, Wood and Worked Bone Finds from the 1926 Expedition, 195–220, at 211 in Adrian J. Boas, *Montfort* (Leiden, 2017). Boas also mentions cramp holes filled with lead at ‘Atlit Castle (ibid., 51, 210–211).

[49] Oren Tal, “The Natural Environment,” in *Apollonia-Arsuf: Final Report of the Excavations I: The Persian and Hellenistic Periods*, eds. Israel Roll and Oren Tal, Tel Aviv University, Monograph Series of the Institute of Archaeology 16 (Tel Aviv, 1990), 78, 80.

[50] Based on preliminary results from the archaeological mission to Belvoir Castle. Mission archéologique de Belvoir (Israël), Rapport 2015, 23–27. See also Baud A. D’Agostino, “Le château de Belvoir (Galilée): l’utilisation des agrafes en métal dans les maçonneries en pierres au XIIIe siècle,” *Chantiers et matériaux de construction en Orient et en Occident, de l’Antiquité à la Révolution industrielle*, Guédelon 23–24–25 septembre 2015 (to appear).

[51] Laurent d’Agostino of the University of Lyon II, studied the iron clamps at Belvoir Castle during the excavation season of 2015.

[52] For a recent study on the construction and destruction of Montfort Castle, see Adrian J. Boas and Rabei G. Khamisy, “Initial Thoughts on the Architectural Development of the Castle,” in *Montfort*, eds. Adrian J. Boas and Rabei G. Khamisy (Leiden, 2017), 95–101.

At Arsur, however, another method was implemented, with iron plates serving the same purpose as the thin basalt chips of Belvoir. The method detected at Arsur recalls a similar use from ʻAtlit Castle, where it was identified for the first time.[54] At ʻAtlit Castle flat iron plates were regularly inserted into the joints between ashlars. Undoubtedly belonging to the original phase of construction, these plates assisted the builders in controlling the leveling of the courses and creating a symmetrical division of the blocks vis-a-vis the courses. At ʻAtlit, where the external face of the wall was constructed using large ashlars (ranging from 60 to 250 cm in length), such small plates were therefore unnecessary, and the builders used stone chips to level the courses. At Arsur, where the size of ashlars on the interior and exterior faces of the walls was similar, these iron bars were used on all walls, exterior and interior alike, thus regulating the size of the joints. The remains of a number of metal hooks, probably inserted for hanging tapestry or cladding, were also identified at Arsur on the walls of the north-east gate tower (Figures II.4.10a, II.4.10b).

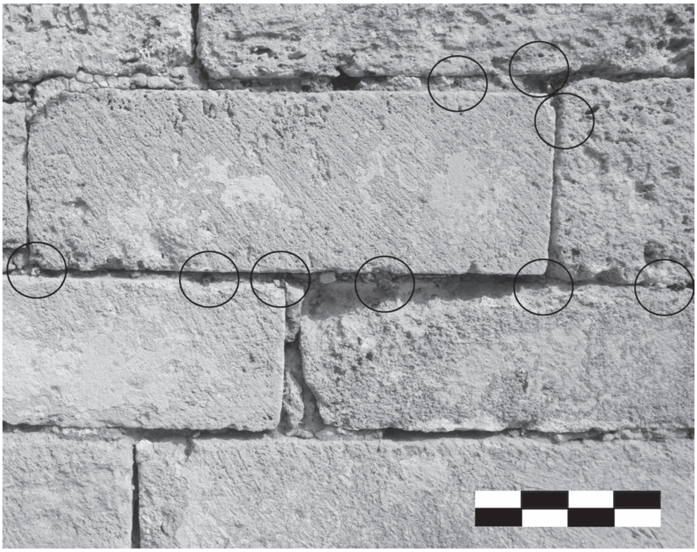


Figure II.4.10a Arsur: the castle: inner wall of the main entry northern gate tower, looking north. © Apollonia-Arsuf Excavation Project Scale is 20cm.

---

[53] Vardit R. Shotten-Hallel, Eytan Sass and Lydia Perelis Grossowicz, “The Hospitaller Castle of Belvoir – Setting the Scene for a Discussion of the Topography, Geology and the Architecture,” in *The Crusader World*, ed. Adrian J. Boas (London and New York, 2016), 490–518, at 496.

[54] Vardit Shotten-Hallel, Dana Ashkenazi and Oren Tal “Archaeometallurgical Analysis of Thirteenth-Century Bronze and Iron Construction Implements from the Walls of the Frankish Castle at Arsuf/Arsur,” *Metallography, Microstructure, and Analysis 11* (2022), 255–280. For Atlit, see Vardit Shotten-Hallel, Dana Ashkenazi, Anna Brook, Eli Sklar, Yotam Asscher, “Archaeometallurgical Characterisation of Ferrous Spacers Retrieved from the Walls of ʻAtlit Castle,” in *The Proceedings of the Tenth Conference of the Construction History Society*, forthcoming.

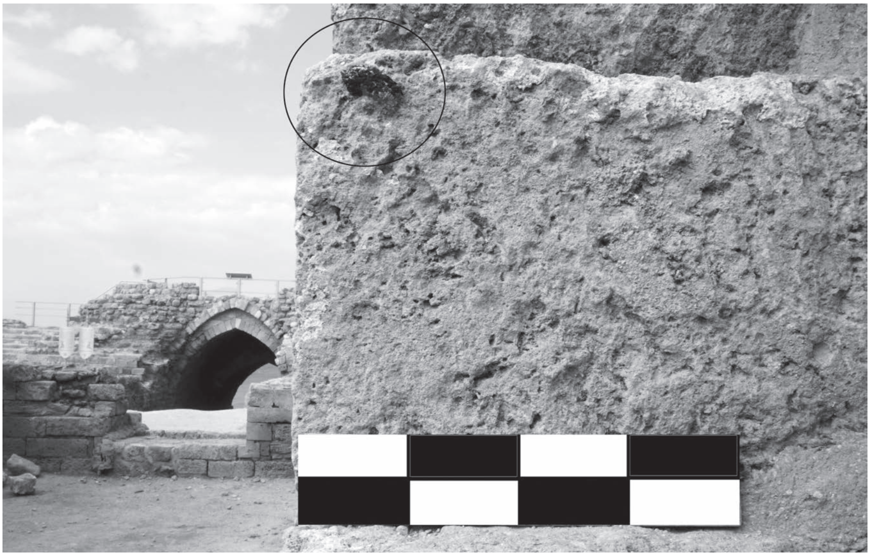


Figure II.4.10b Arsur: the castle: inner wall of the main entry northern gate tower, looking north-west. © Apollonia-Arsuf Excavation Project Scale is 20cm

The Hospitaller phase

The Hospitaller presence in the area of Arsur is recorded for at least a century prior to the lease. In 1176 King Baldwin IV confirmed the sale of Casale Medium (Maen/Moien) near Calanssun (Kalansawe) by Iohannes d'Arsur to the Hospitallers.[55] In 1241, the same year of construction of the castle, John of Arsur sold to the Hospitallers, who already owned half of the territory between Jaffa and Arsur, the bridge over which the road to Arsur runs.[56] Despite the Hospitallers' apparent intention to avoid new construction at the site, they seem nonetheless to have employed professionals in the field, who were already vassals of the seignory. In May 1261 Balian confirmed the appointment of his former vassals, who were now employed by the Hospitallers, such as *magister Petrus Faber* (Pierre le charpentier), probably a master carpenter.[57] With no indication of Hospitaller intervention in the castle chapel architectural layout or sculptural program, the Hospitaller phase is characterised as having modified the original structure to improve its defence and to suit it to the Order's way of life.

---

[55] RRR 969, RRH 539b, Mayer, UKJ 2:672–673 no. 392.

[56] *Cart Hosp* 2:590–591, no. 2274 (RRH no. 1100).

[57] Paoli, *Codice* I, p. 171–173, No. 140; cf. RHC Lois [ed. Beugnot] I, p. 355; Eracles, p. 446.

Gates and portals

We have discussed these alterations in the past,[58] but here we present the evidence for the Hospitaller use of space within the castle. The first major change was that of blocking the southern opening that led to the gallery and was located west of the bridge. The round column was reshaped flat to allow its use as a doorstep and was embedded in the paved entrance. This entrance comprised a gate leading from the surrounding gallery to a hall before approaching the castle courtyard. The remains suggest that it was very similar in construction to the main entrance to the castle from the east. It consisted of a marble column re-cut into a threshold, with cavities carved into it to hold the hinges. The blocking of the original opening from the Ibelin phase meant that the entrance from the gallery to the castle was no longer in service. The Hospitallers understood the danger of keeping this opening accessible from the outer gallery, which was a crucial point of entry and a weak spot in the defence of the castle and blocked it.[59] The ballista stones thrown over the castle during the Mamluk siege of 1265, numbering some 3,000 items (after 29 seasons of excavations), form one of the most prominent aspects of siege warfare over Arsur Castle. Their study shows that they vary in weight, diameter, shape and quality of stone dressing. Most of them were made of limestone, with the majority worked to roughly round shapes while others were natural sizeable pebbles. Few were cut of marble items (re-used Byzantine-period spolia).[60]

---

[58] Shotten-Hallel et al., “The Castle Chapel of Arsur” (2021).

[59] For the Mamluk siege and a detailed discussion of the operations of Baybars based on his biographer’s accounts (Ibn ‘Abd al-Ẓāhir), see Amitai “*The Conquest of Arsuf by Baybars*.” According to the accounts of Ibn ‘Abd al-Ẓāhir (*Al-Rawḍ al-Ẓāhir fī Sīrat al-Malik al-Ẓāhir*, ed. ‘Abd al-‘Azīz al Khuwayṭir, Riyadh, 1396/1976, pp. 235–243), it appears that the town was under siege for about 35 days (from 21/22 March to 26 April 1265), while the fighting over the castle lasted only three days (26–29 April 1265). Nonetheless, although these accounts present many details, the general impression is far from clear. According to Ibn ‘Abd al-Zahir’s account, Baybars ordered the digging of tunnels from the city’s moat to that of the castle, but the only tunnels found after 30 seasons of excavations are from the seashore to the castle. It seems likely that the siege of (and fighting over) the castle lasted more than the three days. The unprecedented number of ballista stones and arrowheads (evidencing Mamluk artillery at most), which were found almost exclusively in the castle area, lend support to this hypothesis. Moreover, the intentional discarding of hundreds of complete (or nearly complete) pottery and glass vessels in a cesspit can hardly coincide with three days, especially when the best explanation for this is hygienic, given the fact that it damaged the functionality of the cesspit into which the vessels and numerous animal bones were thrown (turning a valuable part of the toilet system into a refuse pit). Furthermore, existing spaces in the castle were converted into industrial-scale installations for cooking, baking and washing dishes. It seems to us that, as the Mamluk siege loomed, dwellings near the town walls were evacuated and filled with earth and stones to thicken and strengthen the walls. Residents found shelter in the castle, as did other inhabitants, who fled after the walls (in the south and north) were breached. Because we found no sound testimony to the Mamluk destruction (but rather an abandonment) in the Crusader buildings we excavated in the town (those adjacent to the southern walls and in the inner parts of the town), the general impression is of a planned process of abandonment; cf. e.g. Oren Tal, Itamar Taxel and Annette Zeischka-Kenzler, “A Basmala-Inscribed Jug from Arsur’s Mamluk Destruction of AD 1265: The Religious Manifestation of a Christian-Used Table Vessel?” *JNES* 77 (2018), 91–98.

South entry

This southern opening was located west of the bridge crossing the moat. During the Ibelin phase it served as an entry point to the southern range of the castle from the surrounding gallery. Built of similar components to those of the main gate at the eastern end of the castle, the threshold of this gate comprised two marble columns in secondary use with beachrock flagstones set in between. From the outside of the gate was probably accessed via a staircase that ascended from the level of the gallery c. 80 cm (Figure II.4.11a). On the inside the truncated columns were each carved to form a step that reached the level of the hall,

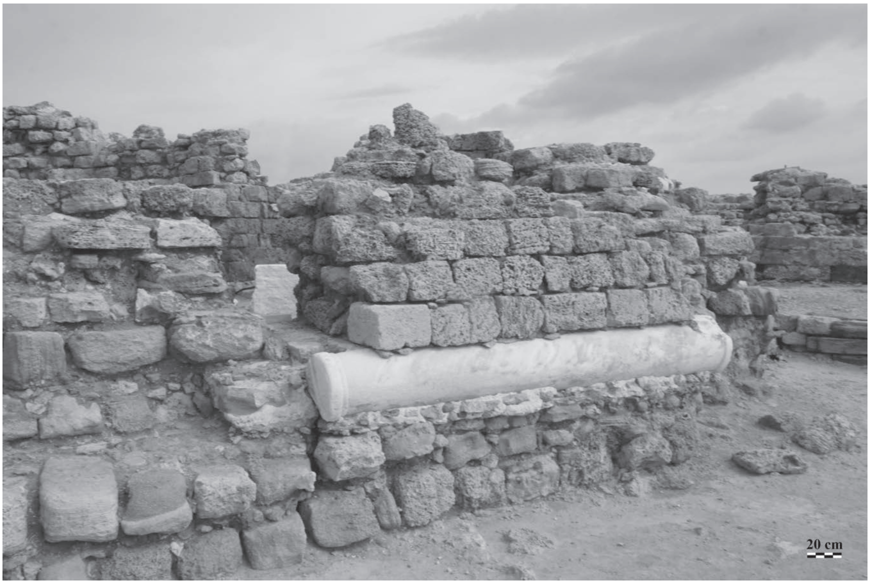


Figure II.4.11a Arsur: the castle: inner southern fortification wall, looking north-east: blocking of the southern gallery entrance to the castle, view to the north-east (above). © Apollonia-Arsuf Excavation Project

---

[60] See Fischer et al., "Recycling of Marble," Figures 6–7, items 1–2, 21 (head of a fifth–sixth century CE portrait sculpture); for studies on the stone, see Kate Raphael and Yotam Tepper, "The Archaeological Evidence from the Mamluk Siege of Arsūf," *MSR* 9 (2005), 85–100; Stefan Heidemann, David C. Nicolle and Oren Tal, "An Inscribed Ballista Stone from Apollonia-Arsūf, Israel," *JIA* (forthcoming).

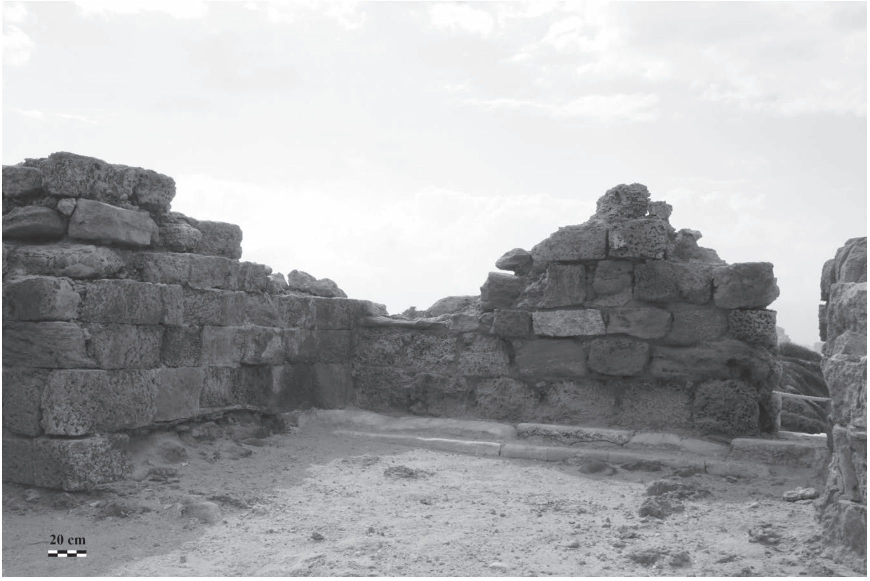


Figure II.4.11b Arsur: the castle: inner southern fortification wall, looking north-east: blocking of the southern gallery entrance to the castle, view to the south (below). © Apollonia-Arsuf Excavation Project

which was higher than the surrounding gallery (Figure II.4.11b). The blocking of this entry was probably part of the Hospitaller preparations for the Mamluk siege.

Main portal

Although the remains of the southern gate tower are poor compared to those of the northern one, they do, however, preserve the Hospitaller addition of large masonry blocks around the apsidal end, which has not survived in the northern tower. Considering that this is the only course of stones preserved, with no evidence of additional courses above it, it is hard to fully determine the Hospitaller rationale behind this structure (Figure II.4.12), apart from providing a bench outside the gate towers, similar to the benches set against the walls of the gate-tower passages.

Passages in the lower halls

The Hospitallers made several additional changes to the circulation in the castle as a result of their adjustments to the lower parts at this floor level. The passage

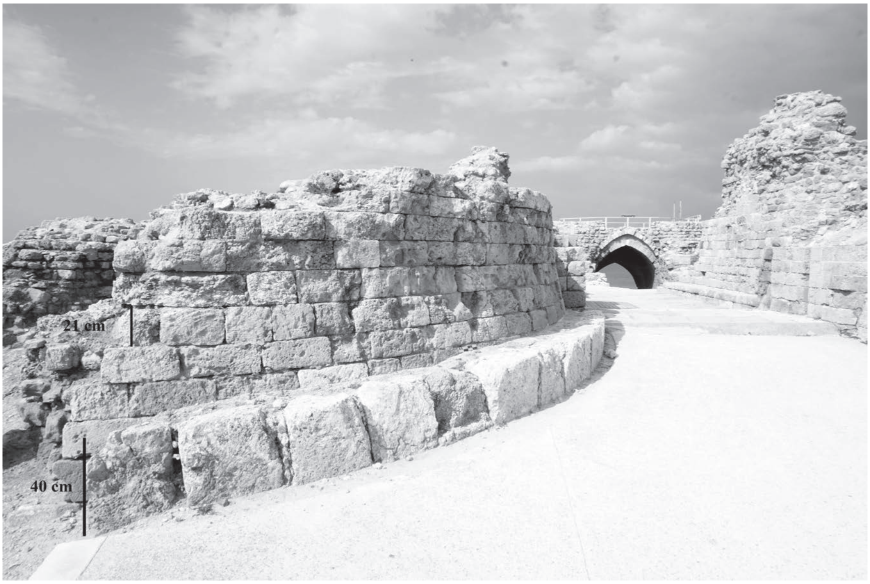


Figure II.4.12 Arsur: the castle: main entry to the castle, southern gate tower: the Hospitaller reinforcement of the Ibelin towers with larger blocks of stone, view to the west. © Apollonia-Arsuf Excavation Project

beneath the donjon leads from the level of the courtyard to the halls underneath the chapel, almost 12 m below the level of the castle chapel. Along the passage runs a canal covered with slabs of stones, carrying sewage from the kitchen area and the central courtyard. This was one of the main sewage canals for the castle, connected also to a trough running along the northern wall of this passage (Figure II.4.13).

The passage descended to a series of halls interconnected with wide openings from the Ibelin phase. The Hospitallers narrowed the two openings leading from the central space to two adjacent halls located north and south of it. The northern hall, excavated during the 2020 season (see earlier), served as a stable. The southern hall still awaits excavation. The openings, however, were reduced during the same phase and to the same size (Figures II.4.14a, II.4.14b).

Paving

Excavation in the western range of the cliff revealed a layering of plaster floor on the paved hall under the chapel (Figure II.4.15). This floor led from the entry point in the south-west to the passage under the chapel's apse.

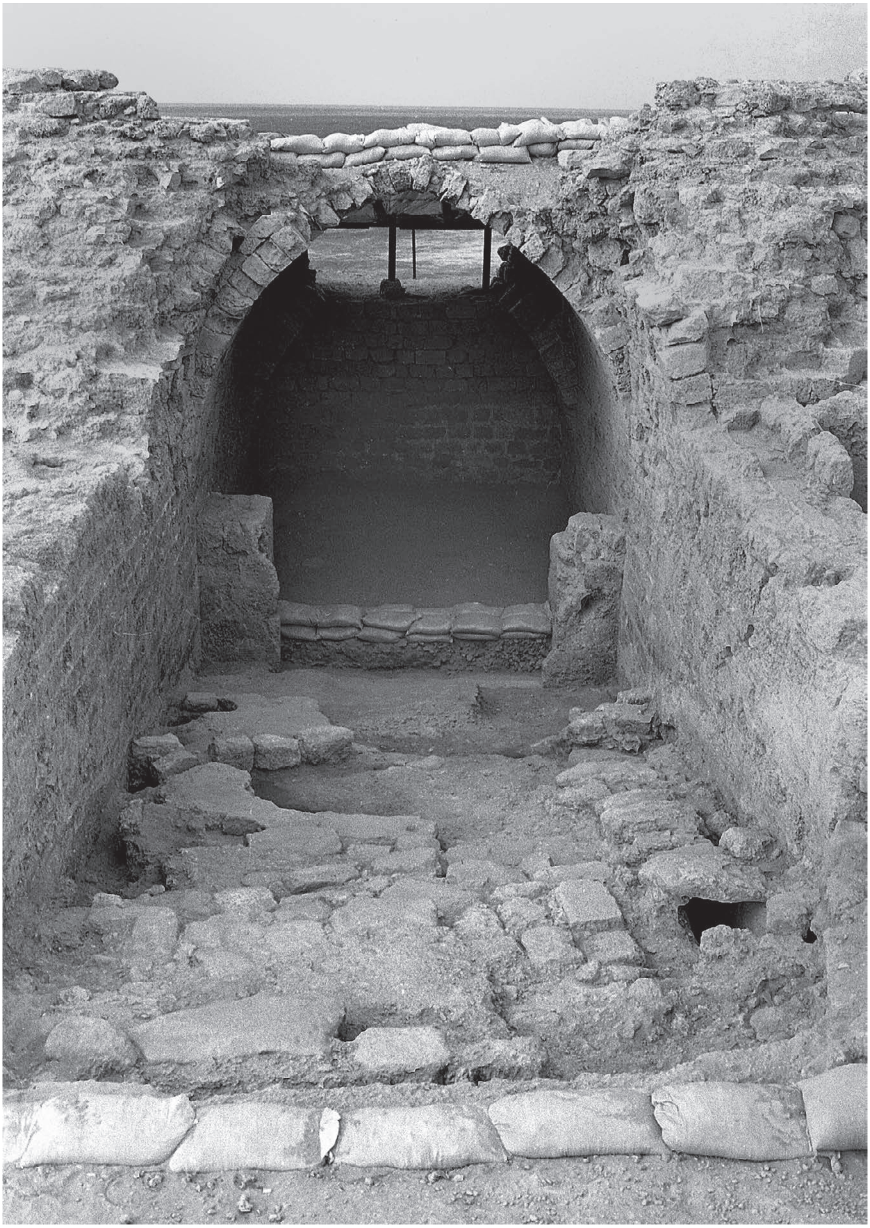


Figure II.4.13 Arsur: the castle: vaulted passage under chapel, the modified threshold adjusted to the new steps. © Apollonia-Arsuf Excavation Project

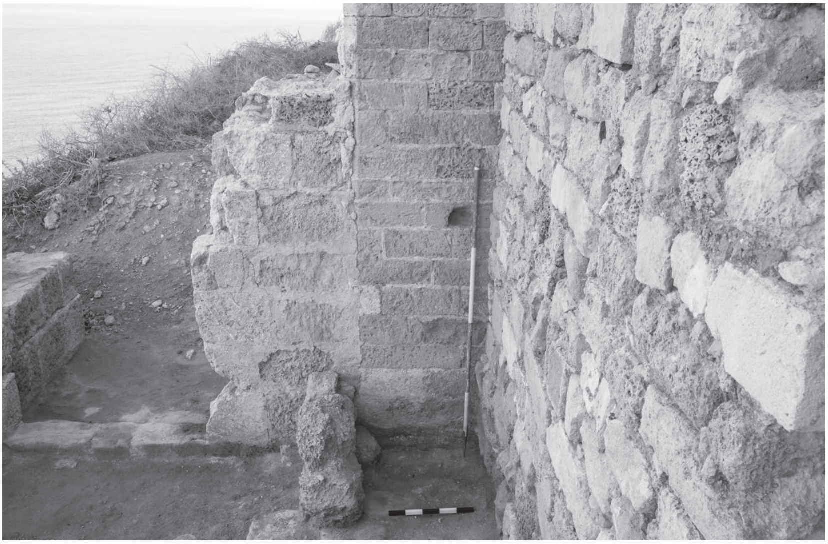


Figure II.4.14a Arsur: the castle western façade, central hall: narrowing the opening to the northern hall, looking north. © Apollonia-Arsuf Excavation Project

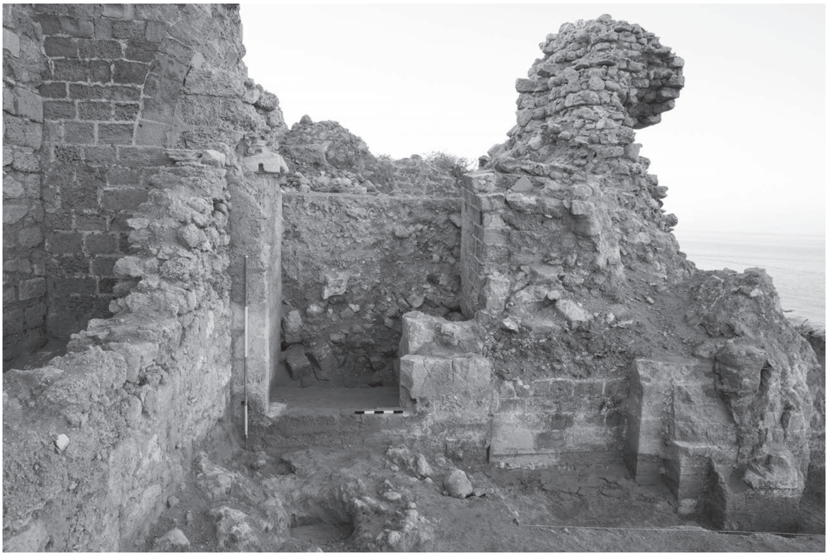


Figure II.4.14b Arsur: the castle western façade, central hall: narrowing the opening to the southern hall, looking south. © Apollonia-Arsuf Excavation Project

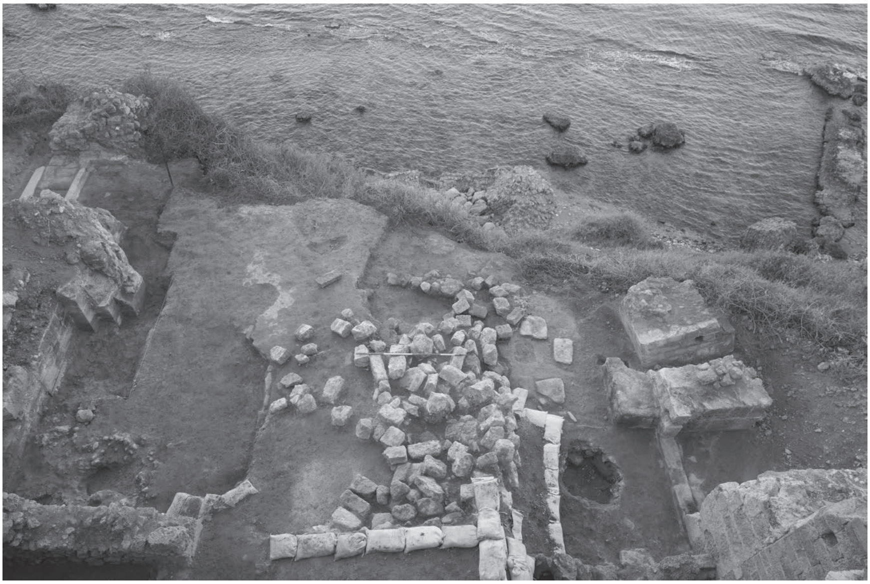


Figure II.4.15 Arsur: the castle western façade, central hall: plaster floor over flagstones from the Ibelin phase and below ashlars from the destruction of the castle, looking west.

Masonry walls

The Hospitallers' additions and alterations were apparently carried out under the pressure of time. The impaired level of accuracy in pointing and finishing the wall surfaces attests to the haste in their construction (Figures II.4.16a, II.4.16b). The walls blocking and narrowing the previously wide openings were left with no plaster coating, thus leaving the pointing – the filling between the ashlars – exposed. Comparing the masonry walls from the two Frankish phases of construction highlights several features, such as the size of the stones: small blocks in the Ibelin structure and larger blocks in the Hospitaller additions.

When comparing the Hospitaller work on the joints with the Ibelin pointing in the passage from the southern entry to the hall underneath the chapel, they are seen to differ significantly. As shown earlier, the joints between the ashlars in all the structures from the Ibelin phase were made with a thin band of white plaster (Figure 8 II.4.17). The possible need to expedite the Hospitaller additions seems to have dictated the end result, which appears slipshod.

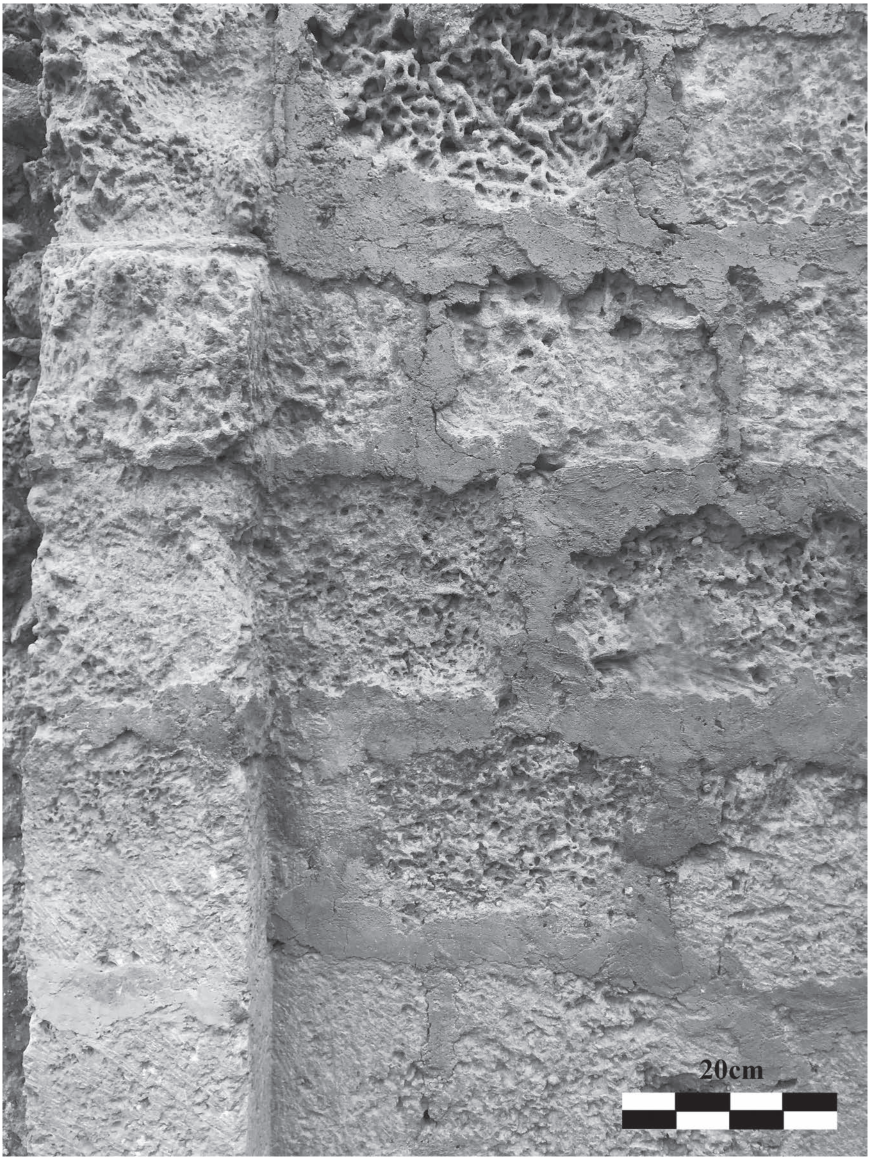


Figure II.4.16a Arsur: the castle western façade, central hall: passage to the southern hall; Hospitaller phase. © Apollonia-Arsuf Excavation Project

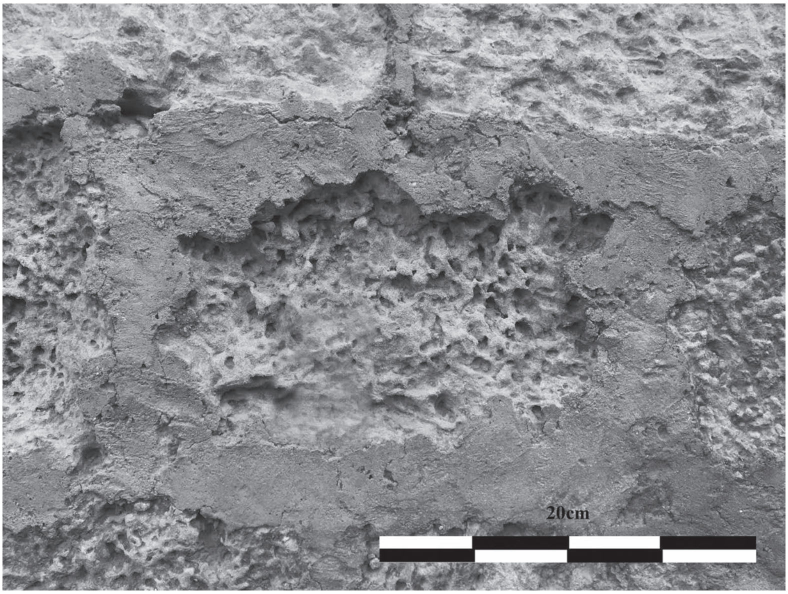


Figure II.4.16b Arsur: the castle western façade, central hall: passage to the southern hall; Hospitaller phase; detail. © Apollonia-Arsuf Excavation Project

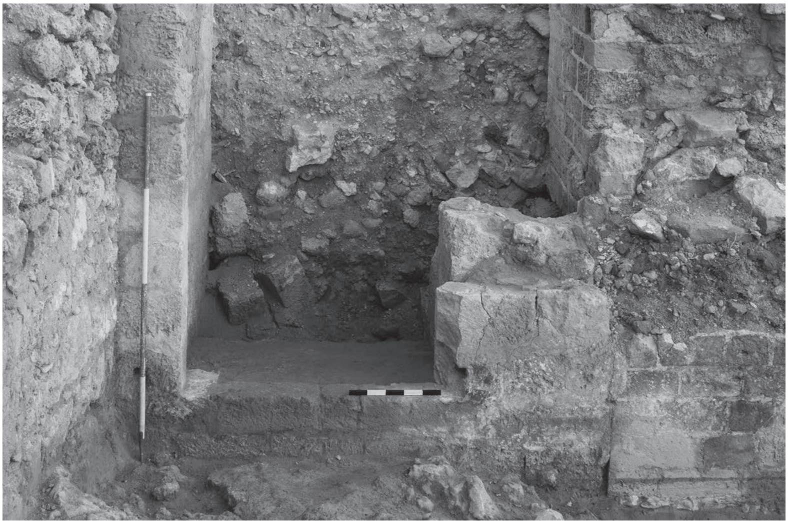


Figure II.4.17 Arsur: the castle western façade, central hall: passage to the southern hall; east side of the passage (left), work of the Hospitaller phase, west side of the passage, a wall from the Ibelin phase (upper, right). For a detail of the Ibelin phase joints, see Figures II.4.9a, II.4.9b. © Apollonia-Arsuf Excavation Project

Conclusion

The excavations in Arsur Castle during recent years have revealed that the nature of the Hospitaller additions to the castle mainly concerned functionality and practicality. Our research, in addition to the excavations, was conducted using building archaeology methodological tools that enabled us to distinguish between the different phases of construction, which are attributed to two main building campaigns, each motivated by a different purpose.

The 2020 excavation results, like those of the previous seasons, contribute to a better understanding of the site, and particularly of its social and occupational history in the late Crusader period. The analysis of the finds has resulted in a system of differentiating the secular characteristics of the castle, built by the Ibelin family in the 1240s, and the mainly military adaptations carried out by the Hospitallers between 1261and the siege of 1265. The 2018 and 2019 excavations have exposed invaluable artefacts and architectural elements that deepen our understanding of the architecture of the castle chapel. The remains of stone window frames and stained-glass fragments indicate that the chapel was decorated with a rose window – a rare find from the thirteenth century in the Latin Kingdom of Jerusalem, and one that in all probability adorned the chapel's western façade.

The use of iron spacers is reported for the first time from Arsur. However, the finding of a comparable element in ʻAtlit Castle indicates that this was a feature introduced into construction from at least the beginning of the thirteenth century. A still unanswered question concerns the exclusivity of this practice to secular construction sites, as it was secular patrons who were involved in the initial construction of both these sites.

The newly discovered elements attest to the extent of the Hospitaller additions to the castle and contribute to the reconstruction of the original layout of the donjon at its later stage under the Hospitaller Order. The Hospitaller alterations, as evident throughout the Ibelin castle and analysed and presented in this article, seem to have been functional throughout. Clearly, the reference by Wilbrand to a palace in Beirut may seem unrelated to Arsur, but it is the viewpoint of a contemporaneous account that makes it relevant. The impression that certain features were prominent to even a random visitor demonstrates how architectural language resonates and reinforces the desired identity envisioned by the Ibelins as castle builders. Lucy-Anne Hunt has discussed in detail various aspects of the architecture and art in the family halls *in Beirut*, concluding they were a manifestation of power and prestige aimed at presenting John I as Justinian, the Christian Roman emperor who exploited the prestige of a glorious past by using a long line of architectural and works of Byzantine art to construct a power base in Latin Syria. What have been identified by Hunt as recognisable features of a contemporary Islamic palace, helped to provide John with the desired legitimacy within the local context and frame his right to rule and lead his subjects, both Muslim and Christian. The situation in the Latin Kingdom of Jerusalem was no different in this respect, but with a twist: here, the architectural language of the castle resonates the political ambition of John of Ibelin II, who was later to become constable and regent of Jerusalem.

5 The archaeology of the *Pardouns de Acre*

Danny Syon

The title of this chapter may seem presumptuous, but archaeological discoveries that I have been following in ʻAkko over the past 30 years make it worthwhile to take the risk.[1] I took part in the excavation of the Hospitaller Compound in the early 1990s and have just finished writing the final report of the second of two excavation seasons at the Knights' Hotel site.[2] On the basis of a group of finds from that site, I offer some insights that support – but also reappraise – some of our notions about Christian pilgrimage in the Latin East in the last decades of the thirteenth century.[3]

Pardouns de Acre is a short manuscript in French that survives in a fourteenth-century copy,[4] which lists 39 Latin churches, monasteries and hospitals in ʻAkko. By visiting them, the pilgrim could collect generous indulgences that are listed individually for each site. The manuscript is thought to date between c. 1258 and 1263. The order of the sites forms a tour of urban pilgrimage within the city, fitting the gradual change in the focus of pilgrimage following the dramatic shrinking of the territories held by Christians after the Third Crusade (1191), and especially

---

[1] I use ʻAkko and not Acre. Although the spelling Acre is the consensus in Crusader scholarship, ʻAkko is more appropriate not only by being the most persistent name of the city, but also because it is the form used in research for all other periods.

[2] Eliezer Stern, Danny Syon and Ayelet Tatcher, *ʻAkko III: The 1991–1998 Excavations. The Late Periods*, IAA Reports (Jerusalem, forthcoming) details the Hospitaller Compound excavations and the 1995 season of the Knights' Hotel Excavation. Danny Syon, "Crusader Remains from ʻAkko, the Knights' Hotel Site: The 2007 Season," ʻ*Atiqot* (forthcoming) will present the results of the second season. All excavations were conducted on behalf of the Israel Antiquities Authority (IAA).

[3] I will present here only the necessary minimum of physical descriptions. The primary sources I consulted are mostly referred to through secondary sources.

[4] For a translation and presentation, see Denys Pringle, *Pilgrimage to Jerusalem and the Holy Land, 1187–1291* (London, 2012), 45, 235–236. See also David Jacoby, "Ports of Pilgrimage to the Holy Land, Eleventh – Fourteenth Century: Jaffa, Acre, Alexandria," in *The Holy Portolano. The Sacred Geography of Navigation in the Middle Ages*, eds. Michele Bacci and Martin Rohde, Fribourg Colloquium 2013 (Berlin, 2014), 51–71, at 59–64, and Fabio Romanini and Beatrice Saletti, *I Pelrinages communes, I Pardouns de Acre e la crisi del Regno Crociato: Storia e testi/The Pelrinages communes, the Pardouns de Acre and the Crisis in the Crusader Kingdom: History and Texts* (Padua, 2012).

DOI: 10.4324/9781003146926-6

after 1244, when control over Jerusalem was lost for good. This subject has been discussed in several excellent studies, and I will reiterate only the main points.

Up to 1187, pilgrims mostly sought the holy places of the Old Testament. ʻAkko itself had been of no interest to them, because it had no Old Testament connections, no holy places and was in fact outside of the spiritual Holy Land.[5] In contrast, after 1187 all major holy places were in Muslim hands. The large number of pilgrims who landed in ʻAkko in the thirteenth century had unimpeded access only to a handful of the lesser shrines that were still in Christian hands. Although there is evidence that pilgrimage to the major holy sites, including Jerusalem, continued to some extent even after 1244 notwithstanding the dangers and inconvenience of travelling through hostile territory,[6] it seems that more and more often pilgrims would remain in ʻAkko, forced to make do with its many churches as the destination of their pilgrimage.[7] Demand created supply and gradually some spiritual dimensions were attached to ʻAkko, not the least being the 'transfer' of the sanctity of Jerusalem through the physical transfer of its churches and salvaged relics to the new capital; even some legends were created to make a connection with the Bible.[8] The economic advantages of this forced trend did not escape the lay and ecclesiastical leaders of the city,[9] resulting in an institutionalized and well-oiled urban pilgrimage and indulgence system that developed in the city from the 1250s on. This is the system that the *Pardouns de Acre* relates to, which allowed pilgrims, whether stranded in ʻAkko, unable to reach the holy sites because of warfare or unsafe roads, or out of choice, to gain indulgences in local churches, some of which contained sacred relics that could be venerated.[10] It is only natural to expect that this system would eventually cater for other needs of the pilgrim: a blessing to take home and a mark to leave behind. I think that the finds from ʻAkko presented next may be understood in that context.

The Knights' Hotel site

The Knights' Hotel site is situated in the north-eastern corner of the present-day Old City of ʻAkko, violated today by the presence of a massive, modern youth hostel that covers the excavation (Figure II.5.1). In contrast to most of the Old City, this area escaped construction in the Ottoman period because it served first as private gardens

---

[5] Arieh Graboïs, "Les pèlerins occidentaux en Terre Sainte et Acre: d'Accon des Croisés à Saint-Jean d'Acre," *Studi Medievali* 23 (1983), 247–264, at 251–252, 260–261.

[6] Jacoby, "Ports of Pilgrimage," 62.

[7] According to the monumental work of Pringle, ʻAkko boasted no less than 82 churches in this period: Denys Pringle, *The Churches of the Crusader Kingdom of Jerusalem, a Corpus IV: The Cities of Acre and Tyre* (Cambridge, 2009).

[8] Graboïs, *Les Pèlerins*, 256–257. The most persistent of these legends seems to be the confusion of Accon/Acre with Philistine Acaron (=ʻEkron).

[9] Jacoby, *Ports of Pilgrimage*, 63.

[10] Jacoby, *Ports of Pilgrimage*, 59–64.

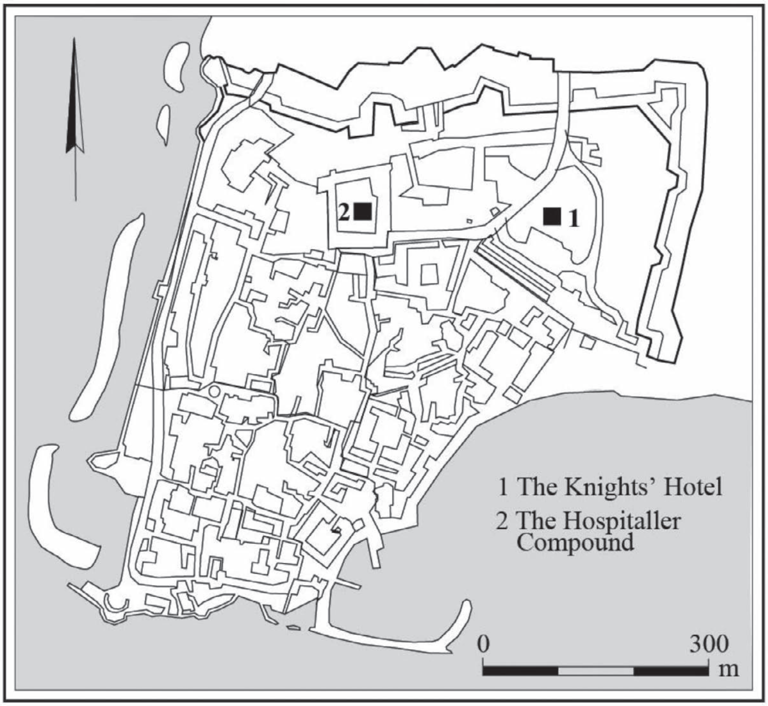


Figure II.5.1 Location of the Knights' Hotel site in relation to present-day Old City of ʻAkko and Hospitaller Compound. Modified after Stern (see n. 17). © D. Syon, IAA

of the rulers of ʻAkko and from c. 1832 at the latest as a military training ground.[11] This state of affairs led to the excellent preservation of a Crusader-period quarter, part of which was excavated ahead of the construction of the youth hostel.

I am among the few who find that the archaeological evidence does not support the huge eastern flank of thirteenth-century ʻAkko as suggested by Kedar,[12] and therefore the identification of this quarter in thirteenth-century terms is at present questionable. Based on its situation east of the Hospitaller Compound and close to the northern wall, as well as on the Vesconte and Veneto maps of Crusader ‘Akko and on the fact that twelfth-century pottery is largely absent, I speculated that the quarter may have been built in the thirteenth century on what had been the grounds of the royal castle in the twelfth century.[13]

---

[11] Danny Syon and Ayelet Tatcher, "The Knights' Hotel Site: Architecture and Stratigraphy," in Stern, Syon and Tatcher, *ʻAkko* III.

[12] Benjamin Z. Kedar, "The Outer Walls of Frankish Acre," ʻ*Atiqot* 31 (1997), 157–180. Jacoby disagreed with Kedar's "maximalist view": David Jacoby, "Society, Culture, and the Arts in Crusader Acre," in *France and the Holy Land: Frankish Culture at the End of the Crusades*, eds. Daniel H. Weiss and Lisa Mahoney (Baltimore, 2004), 97–137, at 121 n. 1 and expressed again reservation about the outline proposed by Kedar: David Jacoby, "Aspects of Everyday Life in Frankish Acre," *Crusades* 4 (2006), 73–105, at 73 n. 1.

The excavated remains consist of buildings – some of which survived 2 m high – that can be classified as houses, shops and workshops; fine architectural fragments, some of which are suggestive of churches; public spaces, and a multitude of installations that include wells, cisterns and cesspits. The excavations – especially the cesspits – yielded an extraordinary wealth of small finds related to the daily lives and crafts of the thirteenth-century inhabitants of the quarter.[14]

The objects related to pilgrimage

The most obvious group of finds in this category are objects from a workshop that manufactured lead flasks (*ampullae*) as pilgrim souvenirs.[15] The remains of the workshop were found in the collapsed debris of a second-floor room. The finds represent the various stages of manufacture (Figure II.5.2): lead scraps for melting,

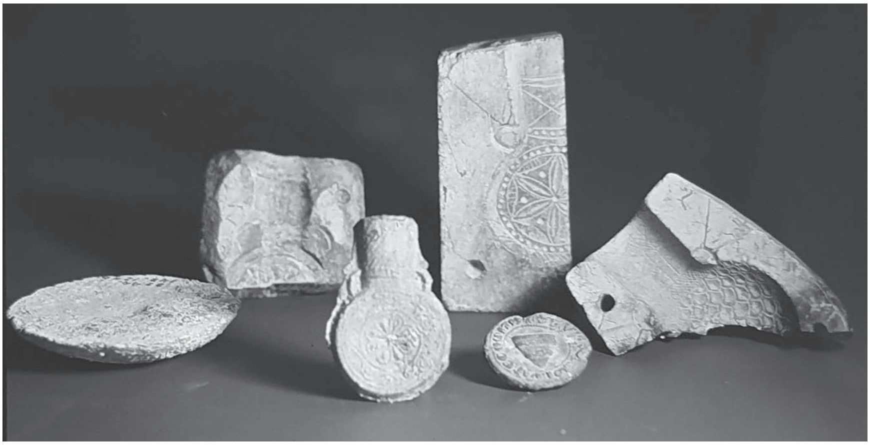


Figure II.5.2 Selected finds from the flask workshop. Photo by author. © D. Syon, IAA

raw material for casting, six moulds and one finished but untrimmed flask.[16] In addition, metallic mercury and some coloured inorganic powders were collected in the debris. An analysis carried out on the powders failed to identify the substances; they may be ingredients to produce paint. The presence of a fourth-century BCE Persian-period *fibula* in the debris, probably scrap metal, suggests that the workshop may have manufactured copper alloy items as well. Ten ceramic and frit *albarelli* (apothecary jars) were found as well, in various states of preservation.[17] The jars, mercury and powders suggest that the establishment may have functioned also as an apothecary shop. The flasks manufactured in the workshop had one flat and one convex surface, decorated with scales, geometric or floral patterns.

---

[13] See n. 11.

[14] The reader is referred to the various chapters in the forthcoming final publications cited in n. 2.

[15] For a full presentation of the workshop see Danny Syon, “Souvenirs from the Holy Land: A Crusader Workshop of Lead Ampullae from Acre,” in *Knights of the Holy Land*, ed. Silvia Rozenberg (Jerusalem, 1999), 112–115 and Danny Syon, “The Knights’ Hotel Site: A Crusader Workshop of Lead Ampullae and other Molds,” in *‘Akko* III.

In addition to the workshop, three broken limestone moulds for manufacturing figurines were found (Figure II.5.3). All moulds have a flat face; two preserve

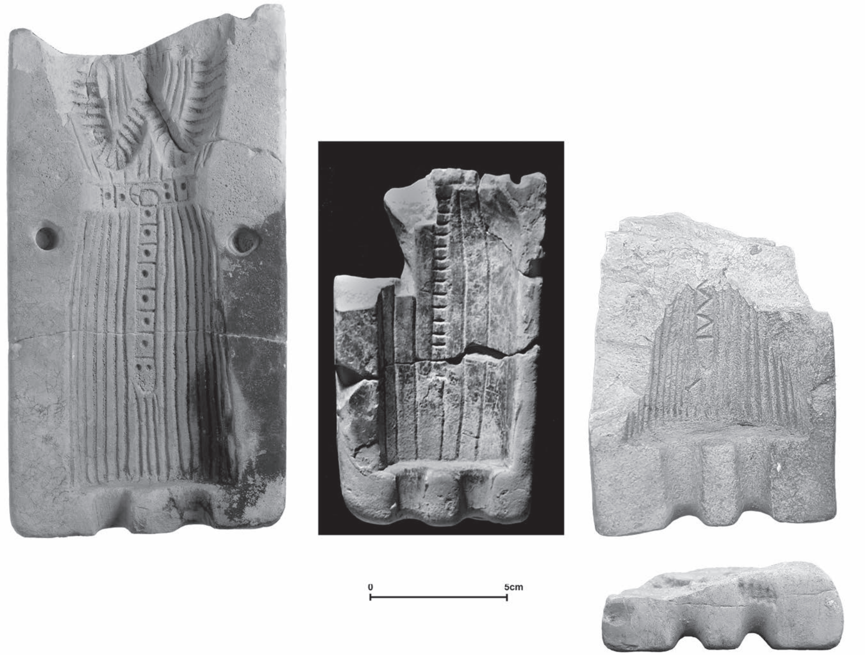


Figure II.5.3 Three figurine moulds. Photos Clara Amit, IAA (No. 1); Marianna Salzberger, IAA (No. 2); author. © IAA

aligning holes to secure a second mould, implying a figure in the round. Unfortunately headless, the moulds portray a person wearing a Western-style long, fluted robe tied at the waist with a long belt with its end hanging loose. Mould No. 1 preserves the arms of the person with palms held together in a praying posture, while Nos. 2 and 3 preserve bare feet with the toes clearly visible. The figurines produced in these moulds would have been about 20 cm tall. The material used was probably clay, as metal would have made them heavy and costly, and wax was not favoured in the hot climate of the Middle East.[18]

---

[16] Metallurgical examination confirmed that the raw material and the flask are made of unalloyed lead: Nimrod Shay, Sariel Shalev and E. Klein, "The Knights' Hotel Site: Scientific Examination of Molds from the Ampulla Workshop," in *'Akko* III.

[17] For example, Edna J. Stern, *'Akko* I: *The 1991–1998 Excavations. The Crusader-Period Pottery*, IAA Reports 51 (Jerusalem, 2012), vol. 1, iii, Colour Plate 6; vol. 2, 59, Figure 4.31: 1–4.

The last item is a marble column found in the thick sand layer covering the Crusader-period remains, which carries a carving of a rather carelessly executed left human footprint (Figure II.5.4). The footprint looks very worn, as if touched by many people over an extended period, the hallmark of objects associated with holy sites visited by worshippers. While there can be little doubt that the column itself is a relic of Roman-Byzantine ʻAkko (not before late in the second century, when marble became common in Palestine), the dating of its second life as the bearer of the footprint is more speculative.

To round out the inventory of pilgrimage-related objects from Crusader ʻAkko, a large group of simple, coarse ceramic bowls dubbed ʻAcre bowls' should be mentioned, found mostly in the nearby Hospitaller Compound. They were apparently used as inexpensive disposable plates in the service of the pilgrims who lodged with the Hospitallers and possibly by the sick in their nearby hospital.[19]

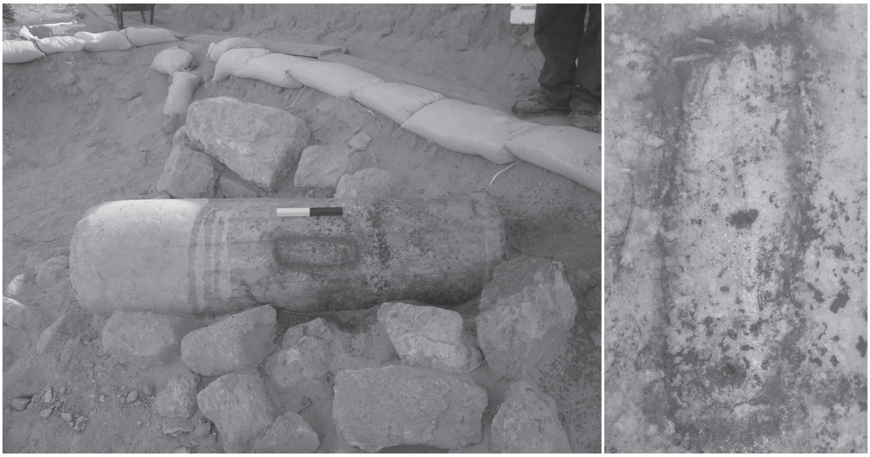


Figure II.5.4 The column as found and the footprint. Photo by author. © D. Syon, IAA

---

[18] A good illustration of this is the fact that while contemporaneous document seals in Europe were made with wax, those in the Frankish East were made of lead.

[19] Stern, *ʻAkko* 1, vol. 1, 27.

Discussion

The finds presented earlier were in use in the last years of Frankish ‘Akko and reflect trends current at the time.

Lead-alloy pilgrim flasks had been manufactured in Jerusalem until 1187 in the church of the Holy Sepulchre, bearing the representation of the Holy Sepulchre and associated scenes from the life of Christ.[20] Such flasks are kept in several museums and collections in Europe, continuing an early Christian tradition in the choice of the scenes and the use of Greek for the few extant inscriptions.[21] The difference is evident in the representation of the tomb of Christ, which had undergone changes under Crusader rule. Moreover, the artistic quality is greatly reduced in comparison with early Christian *ampullae*.

The flasks manufactured in the excavated workshop do not carry recognizable hallmarks of specific holy sites or the religious representations associated with them. They are generic, mass-produced items, and as mentioned earlier the choice of decoration was of geometric, floral or cross motifs. Many such flasks have been found throughout Europe, and some may well be products of the same workshop, or at least of ‘Akko.[22] In an earlier treatment of the workshop[23] I suggested that the thirteenth-century pilgrim purchased a number of these generic flasks when he set out from ‘Akko on his way to the major holy sites, where he would obtain the ‘blessing’ specific to each site to take away in his flask. I still believe this to be true, but what if the pilgrim could not leave ‘Akko? Although I am not aware of literary references to specific physical ‘blessings’ to be had in ‘Akko’s churches in spite of the relics mentioned in them, it is not far-fetched to visualize these churches adapting to the changing times and offering a sacred something (oil?) to take away in a flask, to complement the spiritual indulgences with a tangible souvenir and blessing to take home.[24]

What about the figurine moulds? Although they were found in different buildings 20–30 m apart, they are so similar as to suggest a single workshop, or else a very popular figure that was produced by multiple workshops, just as some modern tourist souvenirs are produced all over the world. However, in contrast to the flasks, I have not been able to locate anything in Europe that could match the products made in these moulds.[25] Similar objects, votives made from wax and pipe-clay and painted, were common in Western Europe in the fifteenth century, but their date cannot be reconciled with the moulds from ʻAkko.[26] Wax votives were sold in medieval Europe in apothecary shops, because wax was a frequently used ingredient by apothecaries.[27] The lead flask workshop suggests that apothecary shops in ʻAkko may have been more diversified, so these figurines may also have been obtained from such shops.

---

[20] The exact date of their manufacture is under debate; see Katja Boertjes, “The Reconquered Jerusalem Represented: Tradition and Renewal on Pilgrimage Ampullae from the Crusader Period,” in *The Imagined and Real Jerusalem in Art and Architecture*, eds. Jeroen Goudeau, Mariette Verhoeven and Wouter Weijers, Radboud Studies in Humanities 2 (Leiden, 2014), 169–189, at 176–177. On p. 183 Boertjes mentions travellers as late as the early fifteenth century who may have purchased *ampullae* decorated with palm branches in Jerusalem, but it does not follow that these were available continuously from the twelfth century.

[21] See Syon, *A Crusader Workshop*, for details and references.

[22] See Syon, *A Crusader Workshop*, for details and references.

[23] See Syon, *Souvenirs*.

[24] Sacred oil is explicitly mentioned as the content on some early Christian pilgrim flasks; see André Garbar, *Ampoules de Terre Sainte (Monza-Bobbio)* (Paris, 1958); In the early thirteenth century we hear of Thietmar (1218) being given some oil from the tomb of St Catherine in Sinai by the bishop/abbot, see Pringle, *Pilgrimage*, 131, 125.

The bare feet on Nos. 2 and 3 suggest a connection to pilgrimage, but if no such figurines are to be found in Europe, then apart from the vagaries of chance the logical conclusion is that they were made in ʻAkko and stayed there. These were likely votives bought by pilgrims to be placed in the churches within ʻAkko. Because the upper part is missing, it is hard to say if the figurines made in the moulds were the representation of one specific figure or several figures dressed in similar, Western-European garb. The long robe and hanging belt can equally fit knights, noblemen, members of the clergy, men or women[28] – all of whom practised pilgrimage, although it would seem that the figurines lacked some of the more obvious attributes of pilgrims appearing in medieval art: the ubiquitous bag, staff and sometimes a flask. In addition to their devotional function, the placing of these votives in the churches of ʻAkko by pilgrims who then returned to Europe fulfilled another universal desire of the traveller: to leave a mark of his visit.

My interpretation for the carved footprint is the most speculative. Venerated footprints – imagined, symbolic or artificial – of holy men and women are well-known in most major and lesser religions, often being objects of veneration and destinations of pilgrimage. A comprehensive discussion is beyond the scope of this paper; suffice it to mention the ʻfootprints of Jesus' in the chapel of the ascension on the Mount of Olives in Jerusalem.[29] There are four historical periods in which this carved footprint could have been the object of some sort of respect, if not outright veneration, in one of the temples, churches or mosques of the city. The first is the Roman period, when according to historical sources, but especially through its coinage, ‘Akko-Ptolemais appears to have housed a multitude of temples to a wide variety of deities. Particularly relevant is an enigmatic coin showing a human foot surmounted by a thunderbolt and a caduceus by its side. This coin type was minted by several third-century emperors and presumably represented – or was the attribute of – an as yet unidentified deity.[30] The second is the Byzantine period, when the city was the seat of a bishop and presumably had several churches that housed some holy relics. Thus, the carved footprint may have been associated with one saint or another, although based on Jewish tradition, Christians did not consider ‘Akko as part of the Holy Land and it had no true holy site (see earlier in this chapter). The early Islamic period is not very likely either, because ‘Akko was not a particularly important Muslim religious centre even though according to Nasir Khusraw, who visited ‘Akko in 1047, it housed the tomb of the prophet Salih.[31]

---

[25] I wish to thank Justine Bayley (Museum of London [ret.]), Vicky Foskolou (University of Crete) and Sarah Blick (Kenyon College, Ohio) for their help in searching for clues throughout Europe.

[26] See e.g., https://medievalart.co.uk/2018/10/21/wax-votive-offerings/; Sarah Blick, "Votives, Images, Interaction and Pilgrimage to the Tomb and Shrine of St. Thomas Becket, Canterbury Cathedral," in *Push Me, Pull You: Art and Devotional Interaction in Late Medieval and Renaissance Art*, eds. Sarah Blick and Laura Gelfand (Leiden, 2011), 21–58; Hans Geybels, *Het heiligenbeeldje. Een biografie* (Leiden, 2016), www.researchgate.net/publication/319136203_Het_heiligenbeeldje_Een_biografie.

[27] See Blick, *Votives*, 26–27 and Carles Vela, "Defining 'Apothecary' in the Medieval Crown of Aragon," in *Medieval Urban Identity*: *Health, Economy and Regulation*, ed. Flocel Sabaté (Newcastle upon Tyne, 2015), 127–142, at 139.

[28] Medieval art abounds with examples of all these, so no specific references are cited.

[29] For a short history, see Denys Pringle, *The Churches of the Crusader Kingdom of Jerusalem, a Corpus III: The City of Jerusalem* (Cambridge, 2007), 72–80 (esp. p. 73).

The most likely period is the Crusader period, and more specifically the late thirteenth century. The footprint may have been a newly invented object of veneration vested with some holiness (related to a saint?), placed in one of the nearby churches during the period discussed, when churches sought creative ways to attract pilgrims. But perhaps a better alternative is to see it as a physical signpost on the urban pilgrimage route of the *Pardouns*, near one of the stations where the pilgrim could collect indulgences.

Another similar ‘station’ is suggested at the south-eastern corner of the Hospitaller Compound.[32] The hospital of St John is the only site in the *Pardouns* where indulgences could be obtained not only by visiting the church, but also by going around the ‘palace of the sick’ or joining the Sunday procession. I excavated this corner in 1992,[33] where a small, arched niche is carved in the south wall of the compound, next to a doorway that led from the ‘Southern Street’ to the ‘Beautiful Hall’. I suggested at the time that the niche may have held a small statue. A few metres away, on the opposite side of the street, many graffiti were found on the plastered wall, some depicting ships.[34] I can visualise a group of pilgrims waiting there for their turn to have their indulgences confirmed, scratching graffiti on the walls to while away the time.

---

[30] See, for example, Yaakov Meshorer, Gabriella Bijovsky and Wolfgang Fischer-Bossert, *Coins of the Holy Land: The Abraham and Marian Sofaer Collection at the American Numismatic Society and the Israel Museum*, eds. David Hendin and Andrew Meadows (New York, 2013), 16, No. 256, speculating that it represents Zeus Heliopolites or Ba‘al of Carmel.

[31] *Nasir-i Khusraw’s Book of Travels*, trans. and ed. Wheeler M. Thackston (Costa Mesa, CA, 2001). The tradition of Nabi Salih continues in ‘Akko to this day; see Pringle, *Churches*, 38–39.

[32] Eliezer Stern, “The Hospitaller Compound: The Architecture,” in *‘Akko* III.

[33] Under the direction of Eliezer Stern.

[34] Yaacov Kahanov and Eliezer Stern, “Ship Graffiti From Akko (Acre),” *The Mariner’s Mirror* 94 (2013), 21–35.

It has been claimed that the thirteenth century saw a change in the narrative of pilgrim accounts, which now included in addition to dry and unimaginative descriptions of the holy places and ‘sacred geography’ in general, also some real geography, real experiences and realia.[35] Although the objects described in this short chapter have everything to do with the essence of the pilgrim experience, they seem to have been too mundane to be described by any pilgrim; it is only archaeology that brings them to life and places them in context.

---

[35] On this see Yvonne Friedman, “Francescinus of Pontremoli: A Pilgrim’s Path to Pardon,” *Franciscan Studies* 43 (1983), 279–320; Arieh Graboïs, “Medieval Pilgrims, the Holy Land and Its Image in European Civilization,” in *The Holy Land in History and Thought. Papers Submitted to the International Conference on the Relation Between the Holy Land and the World Outside It*, ed. Moshe Sharon (Leiden, 1988), 64–79, at 71–74.

6 Crusader landscapes

The current state of knowledge and future directions

Aleks Pluskowski

Introduction

Landscape archaeology emerged as a recognisable discipline in the 1970s; its application to the study of medieval societies in Western Europe was established by the 1990s, and subsequently in parts of Central and Eastern Europe.[1] Its multi-scalar methodology is concerned with spatial analysis that moves beyond the level of the individual site; from the spatial relationships within and between settlements, through to entire regions. Whilst its initial focus was on rural settlements and their associated field systems, this has steadily grown to include the full range of habitats exploited by medieval communities, resulting in the adoption of techniques and processual perspectives used by environmental archaeologists, particularly those concerned with reconstructing vegetation, hydrology and land use. Here, the landscape is regarded as an economic resource.[2] Although much of medieval landscape archaeology remains empirical and comparable to historical geography, the influence of Anglo-American post-processualism has also resulted in theoretical approaches to space concerned with themes such as power, gender, spirituality and belonging.[3] A holistic approach is usefully encapsulated by the term 'cultural landscape', which was developed by geographers and adopted by archaeologists, historians and heritage managers, and refers to the interactive space which shapes, and is simultaneously shaped by, human activity; the integral relationship between physical topography, represented by plants,

---

[1] Timothy Darvill, "Pathways to a Panoramic Past: A Brief History of European Landscape Archaeology," in *Handbook of Landscape Archaeology*, eds. Bruno David and Julian Thomas (London, 2016), 60–76; Steve Rippon, "Understanding the Medieval Landscape," in *Reflections: 50 Years of Medieval Archaeology, 1957–2007*, eds. Roberta Gilchrist and Andrew Reynolds (London, 2009), 227–254; Cristina Corsi, "Medieval Landscape Archaeology in Italy: A Review," *Medieval Archaeology* 60/2 (2016), 332–348; József Laszlovszky and Péter Szabó, eds., *People and Nature in Historical Perspective* (Budapest, 2003).

[2] John Evans and Terry O'Connor, *Environmental Archaeology: Principles and Methods* (Stroud, 1999).

[3] Thomas Meier, "On Landscape Ideologies: An Introduction," in *Landscape Ideologies*, ed. Thomas Meier (Budapest, 2006), 1–39; Matthew Johnson, *Ideas of Landscape* (Oxford, 2007).

DOI: 10.4324/9781003146926-7

animals, water, soil and rock, and social or conceptual space.[4] More recently the term 'biocultural landscape' has been adopted within heritage studies as a more explicit means of connecting biodiversity with cultural heritage.[5] Whilst GIS, remote survey using satellite imagery, Lidar and increasingly drone photography have become staple tools for landscape archaeology, 'Historic Landscape Characterisation' (HCL) involving cartographic regression, combined with high-resolution dating of sites, is also becoming regarded as a powerful tool for spatial analysis and visualisation.[6]

The application of a landscape approach to societies transformed by crusading at the frontiers of Latin Christendom has steadily developed as attention has shifted from the biographies of individual sites to spatial relationships, land use and territoriality. The term 'crusader landscapes' has been deliberately borrowed from the title of Micaela Sinibaldi et al.'s recent volume, which demonstrates the growing importance of a landscape approach to understanding settlement in the Latin East,[7] but it also usefully differentiates the study of frontier societies that were created as a result of crusading campaigns, or the crusading movement in its broader sense, from other borderlands of neighbouring polities. The term 'crusader' in this context is useful as a heuristic device, and whilst its contemporary definitions in different regions of Europe continue to be debated, it became connected to a shared vision of the defence and expansion of Christendom. The concept of frontiers is understandably fundamental to the study of crusader landscapes, and it has been increasingly understood at multiple scales. Whilst the paradigm of Europeanisation is essentially a variant of the core-periphery model for medieval Latin Christendom,[8] from the perspective of its frontier polities governed by Catholic regimes, borderlands were created and dissolved at different times, they expanded and contracted, and within these polities new heartlands emerged following periods of conquest and regime change. For example, the frontier between Pomeranian and Prussian lands in the early thirteenth century, stretching across the floodplain of the Vistula Delta though to the Elbląg Upland, would become a more precisely defined centre of the Teutonic Order's Baltic domains in the following century with the elevation of Marienburg's convent to the seat of the Grand Master, and the annexation of Pomerelia.[9] In contrast, the former political centres of southern Curonia and Sudovia would be transformed into borderlands following the Livonian and Prussian crusades. From the perspective of Western Europeans, the eastern Baltic or Holy Land may have seemed remote, exotic and costly to reach, but this did not deter pilgrims (including crusaders) and migrant settlers from making the journey. Following the Crusades and the dramatic increase in pilgrimage to the Holy Land there was also a tendency to centre Jerusalem on *mappaemundi*.[10]

---

[4] Hilary H. Birks et al., eds., *The Cultural Landscape: Past, Present and Future* (Cambridge, 1988). Foundational studies which situate the medieval period within the *longue durée* include Björn E. Berglund, ed., *The Cultural Landscape During 6000 Years in Southern Sweden: The Ystad Project* (Copenhagen, 1992), and Mick Aston and Christopher Gerrard, *Interpreting the English Village: Landscape and Community at Shapwick, Somerset* (Havertown, 2013).

[5] Sun-Kee Hong, Jan Bogaert and Qingwen Min, eds., *Biocultural Landscapes: Diversity, Functions and Values* (Dordrecht, 2014).

[6] E.g. Sam Turner and Jim Crow, "Unlocking Historic Landscapes in the Eastern Mediterranean: Two Pilot Studies Using Historic Landscape Characterisation," *Antiquity* 84/323 (2010), 216–229; Sam Turner, Jordi Bolòs and Tim Kinnaird, "Changes and Continuities in a Mediterranean Landscape: A New Interdisciplinary Approach to Understanding Historic Character in Western Catalonia," *Landscape Research* 43/7 (2018), 922–938.

[7] Micaela Sinibaldi, Kevin J. Lewis, Balázs Major and Jennifer A. Thompson, eds., *Crusader Landscapes in the Medieval Levant* (Cardiff, 2016).

[8] Nils Blomkvist, *The Discovery of the Baltic: The Reception of a Catholic World-System in the European North (AD 1075–1225)* (Leiden, 2005).

The study of those societies impacted by the Crusades is therefore not exclusively the study of frontiers, but rather of composite polities (and their fluctuating borderlands) defined by encounters between migrant and native populations, including the exchange of ideas that permeated art, architecture and technology. This perspective is also fundamental for approaching the study of crusader landscapes. Following the comparative approach to the environmental impact of crusading proposed a decade ago by Adrian Boas, Chris Gerrard and this author,[11] this chapter reviews the contribution of landscape research in all the major theatres of crusading (the Levant, the eastern Baltic and peninsular Iberia) with the aim of proposing directions for future research. In particular it focuses on two key themes: migrant-native encounters and socio-environmental resilience. The latter necessitates an integrated approach, which incorporates climatic data. Even minor shifts in climate can have a local effect on temperature and precipitation, and in turn on vegetation, animals and ultimately human nutrition and health. Droughts which led to critical food shortages could obliterate urban communities and lead to the abandonment of towns.[12] How societies adapted to these challenges and opportunities is a measure of their resilience, particularly those associated with periods of societal stress relating to warfare and regime change.

The Latin East

The so-called crusader states in the Levant were created from a series of conquests and territorial acquisitions during and in the decades following the First Crusade

---

[9] Aleksander Pluskowski, Alexander Brown, Seweryn Szczepański, Rowena Banerjea and Daniel Makowiecki, "What Does a Frontier Look Like? The Biocultural Dynamics of the Lower Vistula Borderland in the Middle Ages," in *Genius Loci: Laszlovszky 60*, eds. Dora Mérai et al. (Budapest, 2018), 2–7.

[10] David Woodward, "Medieval *Mappaemundi*," in *The History of Cartography 1*, eds. J. B. Harley and David Woodward (Chicago, 1987), 286–370, 341.

[11] Aleksander Pluskowski, Adrian Boas and Chris Gerrard, "The Ecology of Crusading: Investigating the Environmental Impact of Holy War and Colonisation at the Frontiers of Medieval Europe," *Medieval Archaeology* 55 (2011), 192–225.

[12] Ronnie Ellenblum, "How Did Climate Change Cause the Collapse of Civilisations in the Historical Past?" in *Decolonial Heritage: Natures, Cultures and the Asymmetries of Memory*, eds. Aníbal Arregui, Gesa Mackenthun and Stephanie Wodianka (Münster, 2018), 55–74, 62.

(1095–1099), with an additional series of Latin states created in the Aegean Sea region in the wake of the Fourth Crusade (1202–1204).[13] Whilst resident Eastern Christian, Muslim and Jewish populations came under the governance of the new Latin regimes, large numbers of migrants were also attracted from various regions of Western Europe to settle in the towns and villages of these newly created polities. The interaction between migrant and native communities has been at the heart of debates concerning the fundamental character of the Latin states in the Levant.[14] Whilst some key battlefields have been studied using the techniques of landscape archaeology,[15] most spatial analyses have focused on varying scales of settlement and land use. From the 1980s, the Frankish impact on the urban and rural landscapes of the Levant was reassessed in a series of regional and synthetic studies. The connection between fortifications and settlement, the first serious adoption of a landscape approach to the Latin East, was developed by Denys Pringle's combination of survey, site-based excavation and documentary research. The research project centred on the Red Tower, and whilst its approach to the site's territory was closer to the arbitrarily defined area associated with site-catchment analysis, the study also provided a broader landscape context, demonstrating native settlement stability following the onset of crusader rule, as well as mapping the extent of migrant settlements and estates. Importantly, Pringle adopted a broad chronological span, demonstrating the lasting impact of the Mamluk regime with the complete abandonment of earlier coastal settlements by the sixteenth century.[16] The exploitation of natural resources was at the heart of the rural economies of the Latin East, and the construction of castles and planned towns, as well as the growth of existing urban centres created booming markets for a penumbra of existing and migrant rural communities. Written sources represent an invaluable, albeit incomplete, record of the patchwork of fluctuating settlement territories which can be connected with archaeological data and historically relevant models of land use, essential for moving beyond the site-catchment approach. They also provide insights into the politics of managing conquered landscapes and essential natural resources, such as water.[17]

---

[13] Malcolm Barber, *The Crusader States* (New Haven, 2012).

[14] Alan Murray, "Franks and Indigenous Communities in Palestine and Syria (1099–1187): A Hierarchical Model of Social Interaction in the Principalities of Outremer," in *East Meets West in the Middle Ages and Early Modern Times*, ed. Albrecht Classen (Berlin, 2013), 291–309.

[15] Raphael Y. Lewis, "Crusader Battlefields: Environmental and Archaeological Perspectives," in *The Crusader World*, ed. Adrian Boas (London, 2015), 460–489; Raphael Y. Lewis, Rona S. Avissar Lewis and Meir Finkel, "The Tale of a 'Tailing Pile': The Role of Palaeolithic Flint Extraction and Reduction Site in the Frankish Defeat in the Battle of Hattin," *Landscapes* 21/1 (2020), 1–24; Raphael Y. Lewis, "Ascalon, a Landscape of Conflicts, Some Landscape Archaeology Perspectives on Conflicts from the Days of the Latin Kingdom of Jerusalem," in *Crusading and Archaeology: Some Archaeological Approaches to the Crusades (Crusades – Subsidia 14)*, eds. Vardit R. Shotten-Hallel and Rosie Weetch (London, 2020), 345–368; Raphael Y. Lewis, "'Carpe Momento': In Quest of the Material Evidence of the Battle of Arsuf (7 September 1191)," in *Apollonia-Arsuf Final Report of the Excavations, Vo. II Excavations Outside the Medieval Town Walls*, ed. Oren Tal (University Park, PA, 2020), 349–375.

[16] Denys Pringle, *The Red Tower (al-Burj al-Ahmar): Settlement in the Plain of Sharon at the Time of the Crusades and Mamluks* AD *1099–1516* (London, 1986).

In 1998, Ronnie Ellenblum proposed an ambitious geographical approach to understanding Frankish settlement in a larger part of the Kingdom of Jerusalem, which drew on both written and archaeological data. Adopting a long-term diachronic perspective, albeit with uneven and fragmentary data, his model, informed by theories of nomadisation and sedentarisation, connected the regionalised distribution of rural settlements populated by Frankish migrants with the pre-existing pattern of Eastern Christian settlements. This, in turn, he related to the earlier formation of frontiers between Byzantine and Fatimid territories, as well as the enduring importance of Jerusalem.[18] In response to the connections made between castle building and political volatility in the Latin East, Adrian Boas would go on to propose a three-staged history of rural settlement reflecting fluctuating levels of security.[19] This was further developed in 2014 with his ground-breaking synthesis on the settlements of the military orders, which played a major role in the crusader principalities from the latter part of the twelfth century.[20] In 2016, the collection of papers celebrating Pringle's contributions to the field was published under the title of *Crusader Landscapes*, a reference to his work on settlement and environment.[21] Although not all the studies were directly concerned with a landscape perspective, various spatial approaches to the Latin East were included, highlighting the value of regional case studies.[22]

The exhaustive mapping of crusader-era churches has contributed to a temporal and spatial understanding of settlement, but also how a sacred Christian geography was created in the Latin East, as new dioceses and parishes were mapped out.[23] The idea of the Holy Land became fully developed with the Crusades, and the region became a focal point of pilgrimages for Westerners; the construction or expansion of churches and shrines on existing, or newly established, pilgrimage sites created a more tangible experience of the biblical landscape for devotional visitors,[24] one that saw the consolidation of pilgrimage routes, with, for example, fortifications built by the Templars.[25] The Mamluk conquests, in turn, had a clear topographic context. Baybars' military strategy against Frankish fortifications was planned in relation to the principal roads connecting Egypt with Damascus.[26] The conquests were followed by the establishment of a new Islamic sacred landscape.[27]

---

[17] Rafael Frankel, "Topographical Notes on the Territory of Acre in the Crusader Period," *Israel Exploration Journal* 38/4 (1988), 249–272.

[18] Ronnie Ellenblum, *Frankish Rural Settlement in the Latin Kingdom of Jerusalem* (Cambridge, 1998).

[19] Adrian Boas, "Three Stages in the Evolution of Rural Settlement in the Kingdom of Jerusalem During the Twelfth Century," in *Laudem Hierosolymitani: Studies in Crusades and Medieval Culture in Honour of Benjamin Z. Kedar*, eds. Iris Shagrir, Ronnie Ellenblum and Jonathan Riley-Smith (Aldershot, 2007), 77–92.

[20] Adrian Boas, *The Archaeology of the Military Orders: A Survey of the Urban Centres, Rural Settlements and Castles of the Military Orders in the Latin East (c. 1120–1291)* (Florence, 2014).

[21] Sinibaldi et al. *Crusader Landscapes*.

[22] Hervé Barbé, "Safed Castle and its Territory: Frankish Settlement and Colonisation in Eastern Galilee During the Crusader Period," in *Crusader Landscapes*, eds. Micaela Sinibali et al., 55–79.

[23] Denys Pringle, *The Churches of the Crusader Kingdom of Jerusalem: A Corpus, 1–4* (Cambridge, 1993–2009).

Most of the research published to date has focused on the Kingdom of Jerusalem, but there have also been important landscape-related studies relating to the other crusader principalities which lie within the bounds of present-day Lebanon, Syria,[28] Jordan,[29] southern Turkey[30] and the Aegean.[31] They have indicated that there were comparable processes of settlement following the establishment of the new Latin regimes, and in the first half of the twelfth century in particular, with the construction of fortified residences at the centres of estates, the thickening of communication networks and the encouragement of migrant peasants to settle the countryside. Whilst Ellenblum's model has been critiqued for some of its assumptions,[32] a synthetic approach to the settlement dynamics of the eastern Mediterranean crusader states, within their broader regional context, is becoming increasingly possible.

One area that has yet to be developed further is the environmental context of Crusader-era settlement, which Boas noted a decade ago.[33] However, there is a solid baseline. It is generally understood that a warmer and wetter climate prevailed in the eastern Mediterranean during the Crusader period. This facilitated the intensification of cane-sugar production, most notably connected with the Hospitallers. Substantial tracts of the coastal plain in the Kingdom of Jerusalem and later parts of Cyprus were industrialised, represented by sugar refineries and irrigated fields supplied by aqueducts.[34] Viticulture also emerged as a significant industry, as indicated by the presence of wine presses at Crusader-period sites, with entire settlements specialising in wine production. However, the archaeological study of Frankish wine production remains to be developed further, particularly outside the historical bounds of the Kingdom of Jerusalem.[35] Palynological analyses of alluvial deposits from the coast of north-western Syria (corresponding to the principality of Antioch) and supported by an absolute chronology, indicated an increase in viticulture during the Crusader period, with a decline in the latter decades of the thirteenth century, associated with social and economic choices made with the Mamluk conquest.[36] At the same time, substantial imports of grain from Sicily and southern Italy provisioned the populations of the Latin East, and from c. 1220 to 1250 this took place despite climatic trends favouring grain production in the southern Levant rather than in the central Mediterranean.[37] Whilst there have been some compelling theses connecting the political, social and climatic histories of the Crusader-era Levant,[38] climate-related studies have indicated the importance of interregional variation and the role of localised factors, as well as the limiting effect climate can have on societal change.[39] The use of OSL (optically stimulated luminescence) to potentially identify and contextualise terrace use during the Crusader period needs to be combined with a rigorous stratigraphic approach, alongside detailed investigations of their landscape context.[40] This is where high-resolution, integrated landscape approaches can make a significant contribution in the future.

---

[24] Robert Ousterhout, "Architecture as Relic and the Construction of Sanctity: The Stones of the Holy Sepulchre," *Journal of the Society of Architectural Historians* 62/1 (2003), 4–23.

[25] Denys Pringle, "Templar Castles on the Road to the Jordan," in *The Military Orders: Fighting for the Faith and Caring for the Sick*, ed. Malcolm Barber (Aldershot, 1994), 148–166; Denys Pringle, "Templar Castles Between Jaffa and Jerusalem," in *The Military Orders, 2: Welfare and Warfare*, ed. Helen Nicholson (Aldershot, 1998), 89–109.

[26] Rabei G. Khamisy, "Baybars' Strategy of War against the Franks," *Journal of Medieval Military History* 16 (2018), 35–62.

[27] Yehoshua Frenkel, "Baybars and the Sacred Geography of *Bilād al-Shām*: A Chapter in the Islamization of Syria's Landscape," *Jerusalem Studies in Arabic and Islam* 25 (2001), 153–170.

[28] Building on the initial survey of Paul Deschamps, *La défense du comté de Tripoli et de la principauté d'Antioche* (Paris, 1973); Balázs Major, *Medieval Rural Settlement in the Syrian Coastal Region (12th and 13th Centuries)* (Oxford, 2016).

[29] Micaela Sinibaldi, *Settlement in Crusader Transjordan, 1100–1189*, PhD Diss (Cardiff University, 2014); Micaela Sinibaldi, "Settlement in the Petra Region During the Crusader Period: A Summary of the Historical and Archaeological Evidence," in *Crusader Landscapes*, eds. Micaela Sinibali et al., 427–471; Alex R. Knodell et al., "The Brown University Petra Archaeological Project: Landscape Archaeology in the Northern Hinterland of Petra, Jordan," *American Journal of Archaeology* 121/4 (2017), 621–683.

[30] Dweezil Vandekerckhove, *The Origins, Development, and Spatial Distribution of Medieval Fortifications and Rural Settlements in Cilicia 1075–1375*, Unpublished PhD Thesis (Cardiff University, 2014); although most work relating to the Crusader period has focused on fortifications; Dweezil Vandekerckhove, *Medieval Fortifications in Cilicia* (Leiden, 2019).

[31] Athanasios K. Vionis, "The Archaeology of Landscape and Material Culture in Late Byzantine – Frankish Greece," *Pharos* 20/1 (2014), 313–346.

[32] E.g. John L. Meloy, "Reviewed Work: Frankish Rural Settlement in the Latin Kingdom of Jerusalem by Ronnie Ellenblum," *Journal of the American Oriental Society* 120/2 (2010), 286–288.

[33] Pluskowski, Boas and Gerrard, "The Ecology of Crusading," 199.

---

[34] The environmental changes are summarised in Pluskowski, Boas and Gerrard, "The Ecology of Crusading," and Boas, *Crusader Archaeology*, chapter 3.

[35] Rabei G. Khamisy, "Frankish Viticulture, Wine-Presses and Wine Production in the Levant: New Evidence from Castellum Regis (Miʿilyā)," *Palestine Exploration Quarterly* (2020). Published online, https://doi.org/10.1080/00310328.2020.1766218; Judith Bronstein, Elisabeth Yehuda and Edna J. Stern, "Viticulture in the Latin Kingdom of Jerusalem in the Light of Historical and Archaeological Evidence," *Journal of Mediterranean Archaeology* 33/1 (2020), 55–78.

[36] David Kaniewski, Elise Van Campo, Etienne Paulissen, Harvey Weiss, Thierry Otto, John Bakker, Ingrid Rossignol and Karel Van Lerberghe, "Medieval Coastal Syrian Vegetation Patterns in the Principality of Antioch," *The Holocene* 21/2 (2010), 251–262.

[37] Elena Xoplaki, et al., "Modelling Climate and Societal Resilience in the Eastern Mediterranean in the Last Millennium," *Human Ecology* 46 (2018), 363–379.

[38] Sarah Kate Raphael, *Climate and Political Climate: Environmental Disasters in the Medieval Levant* (Leiden, 2013).

[39] John Haldon et al., "The Climate and Environment of Byzantine Anatolia: Integrating Science, History and Archaeology," *Journal of Interdisciplinary History* 45/2 (2014), 113–161.

[40] Yuval Gadot et al., "The Formation of a Mediterranean Terraced Landscape: Mount Eitan, Judean Highlands, Israel," *Journal of Archaeological Science: Reports* 6 (2016), 397–417; Shimon Gibson, "The Archaeology of Agricultural Terraces in the Mediterranean Zone of the Southern Levant and the Use of the Optically Stimulated Luminescence (OSL) Dating Method," *The Archaeology*

The Eastern Baltic

The Crusades in the eastern Baltic resulted in the destruction of the native political order and its replacement with Catholic regimes, largely consisting of a militarised theocracy – the Teutonic Order, bishops and their diocesan chapters, with northern Estonia ruled by the Danish crown until 1346 when it came under the control of the Order. This was accompanied by the establishment of planned towns populated by migrants, as well as native communities, and in Prussia a protracted process of rural settlement led by German and Polish peasants. From the very onset of the military campaigns and the territorial annexations that followed, the new Christian regimes were concerned with the organisation of settlement and the exploitation of natural resources. A new political and religious landscape was gradually created as various administrative districts, dioceses and parishes were superimposed onto the former territorial units. Within each district, the process of settlement, environmental exploitation and the creation of a pastoral infrastructure was mediated by variable engagements with the native population, resulting in composite, heterogeneous societies in what became known as Livonia and Prussia.[41]

The study of the landscape has been a key theme in recent research on the long-term impact of the Baltic Crusades. The reshaping of political organisation in the eastern Baltic during and following the military conquests was connected with the control and exploitation of natural resources, defined by the ownership of land.[42] A substantial body of archaeological scholarship exists on the political landscapes of the pre-Crusader period in the eastern Baltic represented by the diachronic construction, abandonment and spatial relationships of earthen strongholds; representing the largest economic entities at the centre of pre-Crusade native territories.[43] The seminal Culture Clash and Compromise project included a range of perspectives on long-term changes in settlement and introduced three levels

---

of Agricultural Terraces and OSL Dating. Erlanger Geographische Arbeiten 42 (2015), 295–314; Shimon Gibson and Rafael Y. Lewis, “The Origins of Terracing in the Southern Levant and Patch Cultivation/Box Fields,” *Journal of Landscape Ecology* 10/3 (2017), 256–265.

[41] Aleksander Pluskowski, *The Archaeology of the Prussian Crusade: Holy War and Colonisation* (London, 2013, 2022 (for second edition)); Aleksander Pluskowski and Heiki Valk, “The Archaeology of the Crusades in the Eastern Baltic,” in *The Crusader World*, ed. Adrian Boas (London, 2015), 568–592.

[42] Aleksander Pluskowski, Kaspars Klavins, Eva Eihmane, Agris Dzenis and Juhan Kreem, “Reorganizing the Livonian Landscape,” in *Environment, Colonization and the Baltic Crusader States*, ed. Aleksander Pluskowski (Turnhout, 2019), 207–230; Marc Jarzebowski, Aleksander Pluskowski, Tomasz Nowakiewicz and Maciej Karczewski, “Reorganising the Prussian Landscape,” in *Environment, Colonization and the Baltic Crusader States*, ed. Aleksander Pluskowski (Turnhout, 2019), 425–456.

[43] Most recently summarised in Heiki Valk, ed., *Strongholds and Power Centres East of the Baltic Sea in the 11th–13th Centuries* (Tartu, 2014).

of spatial analysis: primary, focusing on dwelling sites; secondary, focusing on centralised and distributive systems between areas or groups, and tertiary, that of regions and polities.[44] Regional studies have subsequently mapped the protracted dynamics of migrant and native settlements on either side of the Crusader period on the basis of historical and archaeological sources.[45]

However, excavations have focused largely on towns and castles, and further research on rural settlements will represent a significant new contribution to our understanding of the impact of the Crusades. Whilst the excavation of individual village sites such as Sala in Latvia have provided invaluable insights into native communities juxtaposed with the migrant culture,[46] in many regions, such as southern Estonia, cemeteries have provided the best archaeological proxies for the broader pattern of native rural settlement,[47] and whilst the diachronic distribution of migrant settlements is well known from the written record, the investigations of the exceptional site of Alt-Wartenburg have shed light on the character of the Prussian–Lithuanian frontier.[48] A further proxy for settlement has been provided by the palaeoenvironmental record. The Ecology of Crusading project compared the impact of political, settlement and religious changes following the Baltic Crusades on environmental exploitation in a number of regions of Livonia and Prussia.[49] Whilst protocols for environmental exploitation were set out by the theocratic regime, palaeoenvironmental data provided a valuable handle on rural community agency in the landscape. Despite the supra-regional hierarchical structure of the Teutonic Order, there was significant regional variation in the exploitation of natural resources reflecting different environmental contexts, but also the variable impact of native and migrant communities. Future regional research, particularly integrating excavation of rural settlements, as well as climatic proxies alongside other environmental data, will further our understanding of the heterogeneity of migrant–native encounters in the wake of the Crusades.

---

[44] Nils Blomkvist, ed., *Culture, Clash or Compromise? The Europeanisation of the Baltic Sea Area 1100–1400 AD* (Visby, 1998), 29–30; Jörn Staecker, ed., *The European Frontier: Clashes and Compromises in the Middle Ages* (Lund, 2004).

[45] E.g. Dariusz Poliński, *Późnośredniowieczne osadnictwo wiejskie w ziemi chełmińskiej* (Toruń, 2003); Seweryn Szczepański, *Pomezania Pruska: Dzieje osadnictwa w XIII–XV wieku* (Olsztyn, 2016); Marika Mägi, *At the Crossroads of Space and Time. Graves, Changing Society and Ideology on Saaremaa (Ösel), 9th–13th Centuries AD* (Tallinn, 2002); Andris Šnē, "The Emergence of Livonia: The Transformation of Social and Political Structures in the Territory of Latvia during the Twelfth and Thirteenth Centuries," in *The Clash of Cultures on the Medieval Baltic Frontier*, ed. Alan V. Murray (Farnham, 2009), 53–71.

[46] Ěvalds Mugurēvičs, *Viduslaiku ciems un pils Salaspils novadā* (Riga, 2008).

[47] Heiki Valk, *Rural Cemeteries of Southern Estonia: 1225–1800 AD* (Tartu, 2001).

[48] Arkadiusz Koperkiewicz, Felix Biermann, Christofer Herrmann and Edvinas Ubis, "Burning Alt-Wartenburg. Archaeological Evidence for the Conflicts Between the Teutonic Order and the Grand Duchy of Lithuania from a Deserted Medieval Town Near Barczewko (Warmia, Poland)," *Lietuvos archeologija* 45 (2019), 265–293.

[49] Aleksander Pluskowski, *Environment, Colonisation and the Baltic Crusader States* (Turnhout, 2019), Aleksander Pluskowski, ed., *Ecologies of Crusading, Colonization and Religious Conversion in the Medieval Baltic* (Turnhout, 2019).

The sacred geography of the eastern Baltic has become the focus of a growing scholarly field concerned, in part, with the creation of a Christian landscape during the Crusades, but more so with native 'sacred natural sites', at the heart of which are discussions regarding their continued use from the pre-Crusader period and the effectiveness of Christianisation, drawing on archaeological, historical and folkloristic research.[50] Elements of the native religious landscape defined by sacred natural sites – trees, groves, lakes, rivers, wetlands, hills and boulders – endured or were recreated by later generations and often syncretised with Catholic religious figures, such as individual saints or the Virgin. Regional differences between Livonia and Prussia could again be linked with the relative presence of Catholic migrants and native communities, as well as the subsequent impact of religious changes associated with the Reformation and Counter-Reformation.[51] It is clear that many new sacred sites were created in medieval and post-medieval Livonia, for example, and they represented a composite worldview that had absorbed key Catholic features, rather than a fossilised prehistoric one. The approach to the sacred landscapes of the eastern Baltic is a regressive one, since many natural sacred sites were recorded only in the post-medieval period. However, archaeological investigations have enabled the long-term biographies of some to be sketched.[52] Future excavations of sacred natural sites, particularly in the historical territory of medieval Prussia, will contribute important information on the transformation of the sacred landscape following the Crusades.

Whilst the eastern Baltic was a frontier from the perspective of Christendom's heartlands, within the theocratic polities, and especially from its centres, such as the Grand Master's seat in Marienburg, it was the borderlands with the Grand Duchy of Lithuania which functioned as an active crusading frontier throughout the fourteenth century. The Teutonic Order's ongoing war with Lithuania became a major draw for crusaders from across Latin Christendom, and the phenomenon of these *Reisen* has been exhaustively studied by Werner Parvincini, who included the landscape of the frontier – the belt of woods and wetlands that became known as the 'Great Wilderness' – crossed by Christian and pagan Lithuanian armies as a logistically defining part of the experience.[53] How armies navigated such a landscape could either make or break a campaign, but it is clear that both Lithuanians and the Order (relying in part on local guides) became very proficient at the frontier war. Palynological and archaeological studies have confirmed the depopulated character of the frontier, although this remains to be studied more comprehensively, particularly in the southern Livonian–Samogitian borderland, as well as in the eastern part of the Sambian Peninsula.

---

[50] The most comprehensive work on the creation of Christian landscapes of the eastern Baltic is Gregory Leighton, *Ideology and Holy Landscape in the Baltic Crusades* (Leeds, 2022). For native sacred landscapes, milestones in the field include *Vykintas* Vaitkevičius, *Studies into the Balts' Sacred Places* (Oxford, 2004); Tonno Jonuks, ed., *Sacred Natural Places*. *Folklore* 42 (2009); *Vykintas* Vaitkevičius and Daiva Vaitkevičienė eds., "Archaeology, Religion, and Folklore in the Baltic Sea Region," *Archaeologia Baltica* 15 (2011); Juris Urtāns, ed., *Kultūras krustpunkti, 5. Dabas svētvietas vai svētvietas dabā: identificēšana, atklāšana un klasificēšana* (Riga, 2011).

[51] Aleksander Pluskowski, Heiki Valk and Seweryn Szczepański, "Theocratic Rule, Native Agency and Transformation: Post-Crusade Sacred Landscapes in the Eastern Baltic," *Landscapes* 19/1 (2018), 4–24.

[52] Heiki Valk, "Jumala jälgedel. Peko lahkumine," *Keel ja Kirjandus* 3 (2019), 165–191.

[53] Werner Paravicini, *Die Preussenreisen des europäischen Adels, 1–3* (Sigmaringen, 1989, 1995, Göttingen, 2020).

Iberia

Whilst the Christian conquests of Islamic polities in Iberia, which began before the First Crusade, were driven by the territorial ambitions of northern magnates, with religious motivations playing, at times, an explicit and at other times an implicit or negligible role, crusading ideology became embedded in medieval Iberian Christian culture.[54] The protracted, southward conquests resulted in Andalusi Muslims coming incrementally under Christian rule, with northern migrants populating existing and newly established towns and villages. This was accompanied by the variable expulsion and relocation of Andalusi communities, resulting in the transformation of the pre-conquest settlement pattern. With each conquest a new frontier between the opposing societies was created, and the conquered territories became consolidated regions of the Iberian kingdoms. The annexations of Andalusi territory continued until the end of the fifteenth century, when the Nasrid emirate of Granada was conquered and incorporated into Castile. Despite the fundamental importance of territoriality in what has been framed as a historical process still widely known by the problematic term '*Reconquista*', spatial approaches to the period of transition have only been popularised in medieval Iberian studies in recent decades.[55]

Whilst castles, which functioned as the centres of re-organised territories following the Christian conquests had traditionally been studied in Spain and Portugal from a biographical perspective divorced from their spatial context, from the 1990s the study of medieval rural settlement and land use was developed by historians and archaeologists working particularly with Al-Andalus, and to an extent the emerging northern Christian states.[56] These laid the foundational pre-requisites for contextualising the impact of the Christian conquests. Such a diachronic approach spanning both Islamic and Christian periods has been most developed for the historical territory of the Crown of Aragon, where the "Landscapes of Conquest" research group has produced a series of ground-breaking spatial studies on the basis of written and archaeological data.[57] Here, there has been a pronounced emphasis on irrigated fields and associated hydraulic features, with Miquel Barceló and Helena Kirchner pioneering the interdisciplinary field of 'hydraulic archaeology'. This has proved to be fundamental for understanding the impact of conquest, regime change, migration and population displacement/replacement.[58] In eastern Al-Andalus (including the Balearic Islands),[59] the process of regime change following the Christian conquests was accompanied by an influx of migrant settlers and the reorganisation or expulsion of rural Andalusi communities. It resulted in the appropriation of existing fields but saw the introduction of new crops, particularly cereals, vines and olives, with the modification of related irrigation systems, as well as the creation of new fields defined by regular plots, all subordinated to a new, centralised political economy.[60]

---

[54] Joseph O'Callaghan, *Reconquest and Crusade in Medieval Spain* (Philadelphia, 2003); Luis García-Guijarro Ramos, "Christian Expansion in Medieval Iberia: Reconquista or Crusade?" in Boas, *Crusader World*, 8–15.

[55] Thomas Glick, *Paisajes de Conquista. Cambio cultural y geográfico en la España medieval* (Valencia, 2007).

[56] Juan Antonio Quirós Castillo, "Medieval Archaeology in Spain," in *50 Years of Medieval Archaeology in Britain and Beyond*, eds. Roberta Gilchrist and Andrew Reynolds (London, 2009), 173–189; 183–184; André Bazzana, Pierre Guichard and Patrice Cressier, *Les châteaux ruraux d'Al-Andalus. Histoire et Archéologie des Husūn du Sud-Est de l'Espagne* (Madrid, 1988); Antonio Gómez Becerra, *El poblamiento altomedieval en la costa de Granada* (Granada, 1998); José Avelino Gutiérrez González, *Fortificaciones y feudalismo en el origen y la formación del reino leonés (siglos IX – XIII)* (Valladolid, 1995); Antonio Malpica Cuello, *Los castillos en al-Andalus y la organización del territorio* (Granada, 2003); most recently Jordi Bolòs Masclans, "Not So Dark Centuries: Changes and Continuities in the Catalan Landscape (6th–12th Centuries)," *Settlement Change Across Medieval Europe*, eds. Niall Brady and Claudia Theune (Leiden, 2019), 91–102.

These studies provide a model for examining the transformation of the landscape in other regions of Iberia following the incremental Christian conquests. They are being increasingly complemented by geoarchaeological approaches focusing on the mechanics of terrace farming, which also include developing robust chronologies with OSL for the use of the agricultural landscape, as in other parts of the Mediterranean.[61] Yet the full range of environmental data, including pollen, plant macro-remains and animal bone, are rarely integrated in the study of the post-conquest landscape. Specialist studies of individual categories of data have demonstrated elements of continuity and change connected with, for example, animal husbandry on either side of the Christian conquests.[62] Building on these studies and Guillermo García-Contreras' foundational work on salt production in the province of Guadalajara,[63] the ongoing 'Landscapes of (Re)Conquest' project (2018–2023) has adopted a holistic approach to compare a range of frontier regions, aiming to integrate a suite of cultural and environmental data.[64]

---

[57] Enric Guinot and Josep Torró, eds., *Repartiments a la Corona d'Aragó (segles XII–XIII)* (Valencia, 2007); Josep Torró and Enric Guinot, eds., *Hidráulica agraria y sociedad feudal, Prácticas, técnicas, espacios* (València, 2012); Josep Torró and Enric Guinot, eds., *Trigo y ovejas: El impacto de las conquista en los paisajes andalusíes (siglos XI-XVI)* (València, 2018); Ferran Esquilache and Frederic Aparisi, *Aigua per al pa, aigua per al sucre. La construcció de les séquies de Palma i d'en March a l'Alfàs de l'Horta de Gandia. Segles XIII i XV* (Lleida, 2019); Antoni Virgil and Helena Kirchner, "The Impact of the Christian Conquest on the Agrarian Areas in the Lower Ebro Valley: The Case of Xerta (Spain)," in *Settlement Change Across Medieval Europe*, eds. Niall Brady and Claudia Theune (Leiden, 2019), 413–420.

[58] Helena Kirchner and Carmen Navarro, "Objetivos, métodos y práctica de la arqueología hidráulica," *Arqueología y territorio medieval* 1 (1994), 159–182; Helena Kirchner and Thomas Glick, "Hydraulic Systems and Technologies of Islamic Spain: History and Archaeology," in *Working with Water in Medieval Europe: Technology and Resource-Use*, ed. Paolo Squatriti (Leiden, 2000), 267–330; Helena Kirchner, ed., *Por una arqueología agraria. Perspectivas de investigación sobre espacios de cultivo en las sociedades medievales hispánicas* (Oxford, 2010); Helena Kirchner and Flocel Sabaté, eds., *Agricultural Landscapes of Al-Andalus, and the Aftermath of the Feudal Conquest* (Turnhout, 2021); Miriam Parra Villaescusa, *Paisaje, explotación agrícola y agua en las tierras meridionales valencianas: la organización social del espacio. La huerta y campo de Orihuela (siglos XIII-XVI)*, PhD Thesis (Alicante, 2017).

[59] Helena Kirchner and Félix Retamero, "Becoming Islanders: Migration and Settlement in the Balearic Islands (10th–13th Centuries)," in *Agricultural and Pastoral Landscapes in Pre-Industrial Society: Choices, Stability and Change*, eds. Fèlix Retamero, Inge Schjellerup and Althea Davies (Oxford, 2015), 57–78; Helena Kirchner, "Feudal Conquest and Colonisation: An Archaeological Insight into the Transformation of Andalusi Irrigated Spaces in the Balearic Islands," in *From Al-Andalus to the Americas (13th-17th Centuries)*, eds. Thomas F. Glick, Antonio Malpica, Félix Retamero and Josep Torró (Leiden, 2018), 189–227.

[60] Helena Kircher, "Archaeology of the Landscape and Archaeology of Farmed Areas in the Medieval Hispanic Societies," *Imago Temporis: Medium Aevum* (2011), 55–86, 71–73.

One aspect of this project is to determine how the culture of multi-faith coexistence or *convivencia* was articulated at the level of the landscape in different frontier regions, and whether this differed in political heartlands. This is usually defined by the chronologically fluctuating presence of mosques, synagogues, churches, monasteries and pilgrimage sites. This dynamic sacred landscape has been framed within the general process of religious transformation in Iberia, which followed in the wake of the Christian conquests and over time saw increasing religious conformity physically manifested by the conversion of mosques to churches and the destruction of synagogues. As a result, the sacred landscape became thoroughly Christianised, even though religious architecture and art represented composite forms from re-purposed Islamic and Jewish buildings or created in the distinctive *Mudejar* style.[65]

The Christian conquests in Iberia took place against a backdrop of climatic fluctuations, the late stage of the MCA and the start of the NAO (North Atlantic Oscillation) in positive mode that resulted in increased aridity in parts of the western Mediterranean.[66] This, in turn, would have prompted challenges to the maintenance of cultivated fields and the provisioning of food for people and animals, times of societal stress associated with periods of political instability there must have been considerable resilience. Innovative responses to water shortages are visible in the Nasrid emirate at this time. However, it is also likely there was spatial variation related to the topographic heterogeneity of the Peninsula. In this respect the future of landscape studies in Spain and Portugal will benefit from the continuation of high-resolution regional and local studies, which in turn will facilitate a broader comparative synthesis of the long-term impacts of the Christian conquests.[67]

---

[61] Tim Kinnaird, Jordi Bolòs, Alex Turner and Sam Turner, "Optically-Stimulated Luminescence Profiling and Dating of Historic Agricultural Terraces in Catalonia (Spain)," *Journal of Archaeological Science* 78 (2017), 66–77.

[62] E.g. Simon Davis, "Zooarchaeological Evidence for Moslem and Christian Improvements of Sheep and Cattle in Portugal," *Journal of Archaeological Science* 35/4 (2008), 991–1010; Idoia Grau-Sologestoa, "Livestock Management in Spain from Roman to Post-Medieval Times: A Biometrical Analysis of Cattle, Sheep/Goat and Pig," *Journal of Archaeological Science* 54 (2015), 123–134.

[63] Guillermo García-Contreras, *Los valles del Alto Henares en época andalusí. La organización del poblamiento y su relación con las explotaciones salineras (siglos VIII-XII)*, PhD Thesis (Granada, 2013).

[64] Guillermo García-Contreras, et al., "Landscapes of (Re)conquest Project: investigando la perspectiva socio-ambiental de las fronteras medievales en el suroeste de Europa," *Debates de Arqueología Medieval* 8 (2019), 223–232.

[65] Gabor Thomas, Aleks Pluskowski, Roberta Gilchrist, Guillermo García-Contreras Ruiz, Anders Andrén, Andrea Augenti, Grenville Astill, Jörn Staecker and Heiki Valk, "Religious Transformations in the Middle Ages: Towards a New Archaeological Agenda," *Medieval Archaeology* 61/2 (2017), 300–329, 310–311.

[66] S. Lüning, L. Schulte, S. Garcés-Pastor, I. B. Danladi and M. Gałka, "The Medieval Climate Anomaly in the Mediterranean Region," *Paleoceanography and Paleoclimatology* 34/10 (2019), 1625–1649.

Conclusion

The study of landscapes in the medieval Levant, eastern Baltic and Iberia has provided a fundamental contribution to our understanding of the impact of the conquests and regime changes driven, supported by, or within the broader framework of the crusading movement. The long-term archaeological and palaeoenvironmental perspective on settlement and land-use change lends itself extremely well to contextualising the regional impacts of these conquests by also examining the pre- and post-Crusader-era landscape, whilst simultaneously connecting heterogeneity with the varied encounters between migrant and native cultures, and their engagement with diverse ecological contexts at a time of fluctuating climate.

In all three regions the cultural landscapes can be described as ‘palimpsests’; the metaphorical use of the term popularised by Osbert Crawford, one of the pioneers of the application of aerial photography to archaeology, referring to the long-term superimposition of different cultural practices on the land.[68] The landscapes in these regions also functioned as dynamic frontiers at varying points in their histories, and future work will continue to explore the implications of these linear and non-linear borderlands for governance, settlement, multi-culturalism and the lived experience of regime change.[69] Castles continue to be studied biographically, but they are also understood as crucial nodes of the Crusader-era settlement networks. Post-processual approaches to their territories or ‘castlescapes’ are increasingly attracting the attention of scholars, particularly in relation to the concept of a frontier.[70] If there is one shared feature that can be explicitly related to the crusading movement in all three regions, it is the role of the military orders which exercised *de facto* governance as either sovereigns or vassals. Supra-regional comparisons of their cultural landscapes will become increasingly possible, both within and between these transnational institutions.[71]

---

[67] Useful overviews include Rámon Pérez-Obiol, “Vegetación y cambios climáticos en la vertiente mediterránea de la Península Ibérica e Islas Baleares a partir de análisis polínicos,” in *Vegetación y cambios climáticos*, eds. Juan Francisco Mota Poveda and Francisco Gómez Mercado (Almería, 2001), 107–115; Ana Moreno et al., “The Medieval Climate Anomaly in the Iberian Peninsula Reconstructed from Marine and Lake Records,” *Quaternary Science Reviews* 43 (2012), 16–32.

[68] O. G. S. Crawford, *Archaeology in the Field* (London, 1953).

[69] The debate over the perceived linearity of medieval frontiers in the Latin East is summarised in Kevin James Lewis, “Shifting Borders in the Latin East: The Case of the County of Tripoli,” in *Crusader Landscapes*, ed. Micaela Sinibaldi (Cardiff, 2016), 103–116.

The research to date on crusader landscapes has provided important models which can be tested with future local and regional studies; the next generation of research will include a greater suite of techniques drawn from environmental archaeology, but it will also become increasingly comparative and synthetic. As the notion of a 'Global Middle Ages' continues to pervade medieval studies, along with collaborative projects fostering consilience between the humanities and sciences in the study of the past,[72] the role of climate change in the overarching narratives of the expansion of Latin Christendom can be revisited, with the combined dataset of the landscape representing an invaluable barometer of the impact of fluctuating temperature and precipitation. The MCA was a striking episode in climate history which appears to have had global effects, whilst regional variation, such as between the eastern/central and western Mediterranean, was driven by other large-scale processes like the NAO. Causal links between climatic, environmental and societal change must be explored at multiple scales, from the impact on micro-economies through to the regional trade and provisioning networks that defined the medieval Mediterranean and Hanseatic Baltic worlds.[73] In this respect, crusader landscapes will be integral to the future histories of medieval Europe.

Acknowledgements

I would like to thank the reviewers and my colleague Guillermo García-Contreras for their comments on this paper.

---

[70] Oliver Creighton, "Castle Studies and the European Medieval Landscape: Traditions, Trends and Future Research Directions," *Landscape History* 30/2 (2009): 5–20; Aleksander Pluskowski, Rowena Banerjea, Guillermo García-Contreras, eds., "Forgotten Castle Landscapes," *Landscapes* (2021, special issue).

[71] Aleksander Pluskowski, "The Archaeology of the Military Orders: The Material Culture of Holy War," *Medieval Archaeology* 62/1 (2018), 105–134.

[72] Catherine Holmes and Naomi Standen, eds., "The Global Middle Ages," *Past & Present* 238/13 (2018, special issue).

[73] Michael McCormick, "History's Changing Climate: Climate Science, Genomics, and the Emerging Consilient Approach to Interdisciplinary History," *The Journal of Interdisciplinary History* 42/2 (2011), 251–273.

7 Two recently discovered mural paintings and the development of monumental painting in twelfth-century Jerusalem

Gil Fishhof, Amit Re'em, and David Yeger

Introduction

The present chapter presents two fragmentary murals which were recently discovered in Jerusalem.[1] The first, and more extensive of the two, is from the Church of Saint-Nicholas in the Old City, situated northwest of the Church of the Holy Sepulcher, on the north side of Greek Orthodox Patriarchate Street. In 2016, during salvage excavations in the church conducted by Amit Re'em and David Yeger, the researchers were informed of the existence of murals adorning the southern apse, and revealed beneath when the local priest removed accumulated layers of plaster on the wall. The part of the cycle revealed comprises four scenes from the life of Saint Nicholas: Saint Nicholas saving three innocent men from execution; the three imprisoned generals (about to be rescued by the saint); Saint Nicholas ordained as a bishop; and Saint Nicholas performing Mass. Several indications, as discussed in this chapter, suggest that the cycle was indeed created in the twelfth century.

The second, much more fragmentary, mural was discovered in the Church of Saidnaiya, also within the walls of the Old City (E Sieda St 4) about 150 m north to the Holy Sepulcher. Although this mural painting had been known to the Greek-Orthodox church for at least 10 years when it was discovered in a renovation works in the church it had not been published in any of the research literature. The surviving stretch of mural portrays a beautiful and delicate head, with the hair tied by a ribbon featuring a fine gem at its center. As we will suggest, the possible relation of this head to Komnenian art is indicated by its style, again indicating the twelfth century.

The murals are of special interest, as both were created in Greek-Orthodox churches, thus offering a glimpse into artistic production by this community, which was profoundly affected by the establishment of Latin rule. Our analysis of the

---

* The authors would like to thank Nicholas Melvani, Mati Meyer, Michalis Olympios, Robert Ousterhout, and Nancy P. Sevčenko for their valuable advice and support. Gil Fishhof's part of the research was supported by the ISRAEL SCIENCE FOUNDATION (grant No. 527/20).

[1] Due to various limitations at both sites, the photographic documentation presented here is preliminary. We hope to be able to provide additional documentation in the future.

DOI: 10.4324/9781003146926-8

two murals will estimate their adherence to Byzantine models, the presence of Western influences, and the characteristics of their style. Thus, the two murals will provide new insight on such questions as the transfer of ideas and artistic traditions between different communities in Jerusalem, as well as on artistic production in a culturally and artistically diverse environment. More so, from the end of the nineteenth century and up to the 1970s, evaluations of art in the Latin Kingdom of Jerusalem had tended to emphasize its Western character. However, scholars have since begun to acknowledge the consistent Byzantine character of monumental painting in the Kingdom, as well as the diversity of this character, created both by Byzantine artists and by local Syro-Palestinian and Western artists who faithfully turned to Byzantine models.[2] Through the comparison of these two new murals to other examples of monumental painting from twelfth-century Jerusalem, some of which are from Latin edifices, the chapter seeks to contribute to our understanding of monumental painting in the Latin Kingdom in the twelfth century as a whole, and gauge the place of Byzantine traditions in the Kingdom.

The Saint Nicholas cycle

The church of Saint Nicholas is mentioned in a list of 13 Greek Orthodox churches to the west of the Church of the Holy Sepulcher by an anonymous Greek traveler. The list appears in a description of Jerusalem written sometime after 1187.[3] In 1189, Saladin granted the Georgian community possession of the church, and it remained in their hands throughout the Mamluk period. It may be identified as the 'Iberian' monastery mentioned by the Russian deacon Zozimos during his visit to Jerusalem in 1419–1421 CE. After the Ottoman conquest, the church was returned to the Greek-Orthodox Church, although Georgian monks probably continued to occupy the building.[4]

Today, the building has two floors. The lower floor contains three parallel halls arranged on an east–west axis. The halls have barrel vaults with pointed-arched profiles, and they open to the west onto a north–south hall. At present, it is not possible to draft a full plan of the lower floor. The church is on the upper floor and is square in plan. Only the east and south walls exhibit typical Crusader masonry, characterized by diagonally dressed stones and masonry marks. The other parts of the church were rebuilt at a later date. To the south of the church is an open courtyard surrounded by arcades (a cloister), where several pillars and arches have been documented. The pillars were apparently once part of the cloister and probably date from the Crusader period.[5]

---

[2] For major surveys of the historiography of Crusader art see: Jaroslav Folda, *The Art of the Crusaders in the Holy Land, 1098–1187* (Cambridge, 1995), 5–20. For the Byzantine character of painting in the Latin Kingdom see: Gustav Kühnel, *Wall Painting in the Latin Kingdom of Jerusalem* (Berlin, 1988), xiv, 129; Bianca Kühnel, *Crusader Art of the Twelfth Century: A Geographical, an Historical, of an Art Historical Notion?* (Berlin, 1994), 47–48. For a discussion of the possible meanings of the use of Byzantine iconography and style by Frankish patrons see: Gil Fishhof, "The Meanings of Byzantium: The Church of Abu-Ghosh (Emmaus) and the Meanings of Byzantine Pictorial Language in the Latin Kingdom of Jerusalem," *Convivium. Exchanges and Interactions in the Arts of Medieval Europe, Byzantium, and the Mediterranean* 7/2 (2020), 14–35.

[3] Anonymus Graecus, *De Locis Hierosolymitanus*, in *PG*, 133, col. 981.

[4] Denys Pringle, "Monastery Church of Saint Nicolas," in idem, *The Churches of the Crusader Kingdom of Jerusalem: A Corpus*, vol. 3 (Cambridge, 2007), 338–341.

The eastern part of the church is the only part that has survived from the Crusader period. It comprises three round apses set within the thick rectilinear wall. The central apse is wider than the two lateral ones (Figure II.7.1). The walls of the

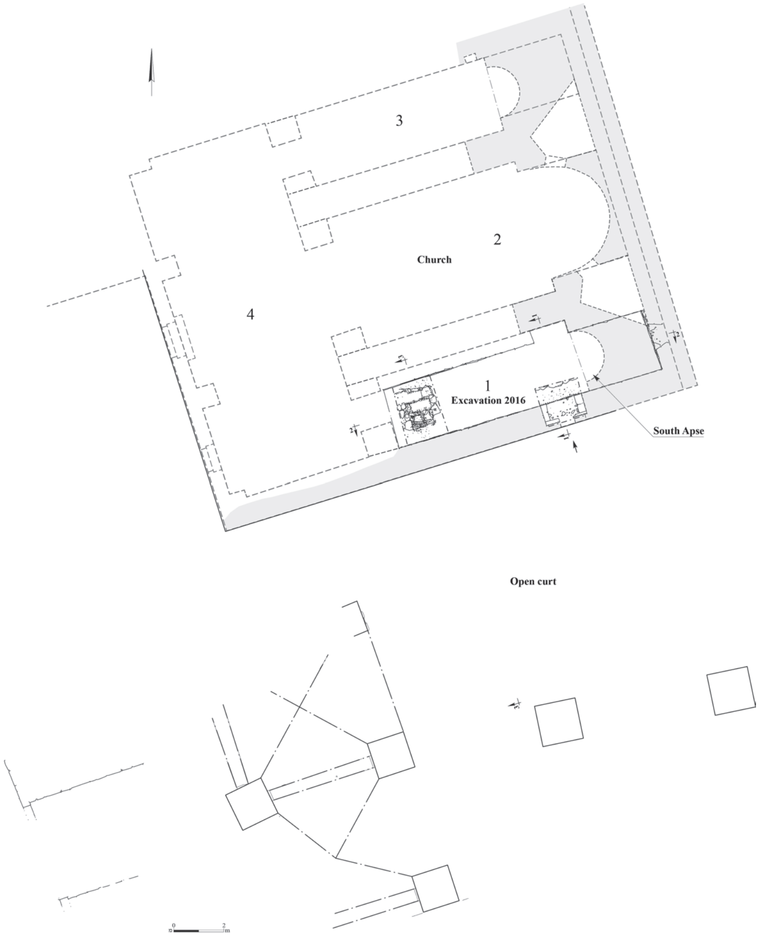


Figure II.7.1 Ground plan, Church of Saint Nicholas, Jerusalem. © IAA

apses up to the top course (cornice) are part of this Crusader building phase. The semi-domes, however, were eventually destroyed and replaced in later periods. The painting occupies most of the wall of the southern apse and has been preserved up to the cornice from which begins the semi-dome of the apse (Figure II.7.2). The mural probably originally continued onto the semi-dome, though nothing remains from this. Both the extant painting and the plaster layer beneath it are pitted with holes and numerous deliberate gashes made in preparation for the application of further layers of plaster to the earlier, painted layer of plaster.

---

[5] For a detailed discussion of the architecture of the building as well as of the excavations see David Yeger and Amit Re'em, "Jerusalem, Old City, Church of St. Nicholas," *Hadashot Arkheologiyot. Excavations and Surveys in Israel* 131 (2019), online. Consulted 30.7.2020.

The mural is divided into four separate panels, each framed by a red border. In the lower right panel, Saint Nicholas is intervening to save three innocent citizens of Myra (present-day Antalya province in Turkey), just as they are about to be beheaded (Figure II.7.3). This event appears in a sixth-century text called the *Praxis de Stratelatis* and is described in all of its three recensions, as well as in later sources.[6] It became one of the most common scenes in cycles of Saint Nicholas.

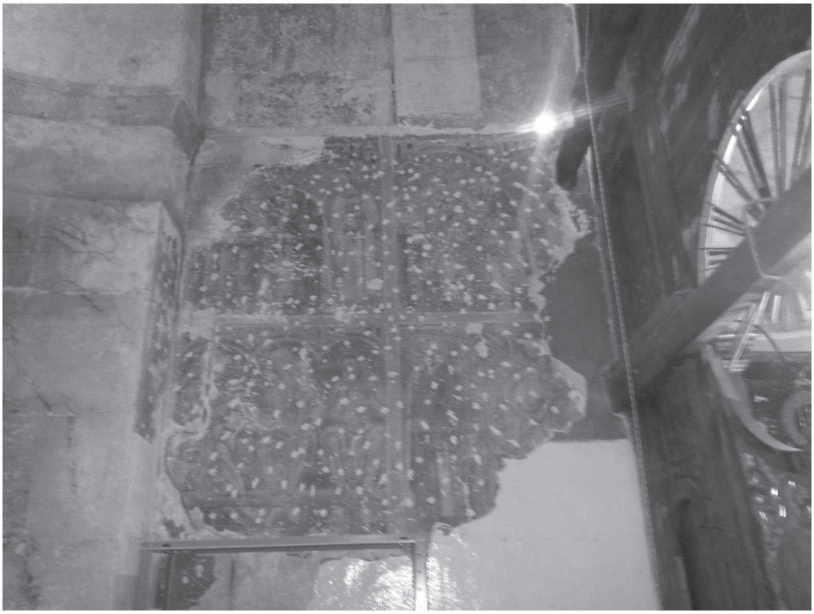


Figure II.7.2 Mural in southern apse, Church of Saint Nicholas, Jerusalem (Photo: Amit Re'em). © Amit Re'em

---

[6] For a critical edition and discussion of the manuscripts see Gustav Anrich, *Hagios Nikolaos. Der heilige Nikolas in der griechischen Kirche*, 2 vols. (Leipzig and Berlin, 1913–17), 1: 67–91, 2: 368–375; Nancy P. Sevčenko, *The Life of Saint Nicholas in Byzantine Art* (Turin, 1983), 104–108. See also: Gerardo Cioffari, "San Nicola nelle fonti letterarie dal V all'VIII secolo," in *San Nicola: splendori d'arte d'Oriente e d'Occidente*, ed. Michele Bacci (Milano, 2006), 31–34. For the cult of Saint Nicholas as a whole see: Charles W. Jones, *Saint Nicholas of Myra, Bari and Manhattan. Biography of a Legend* (Chicago and London, 1978).

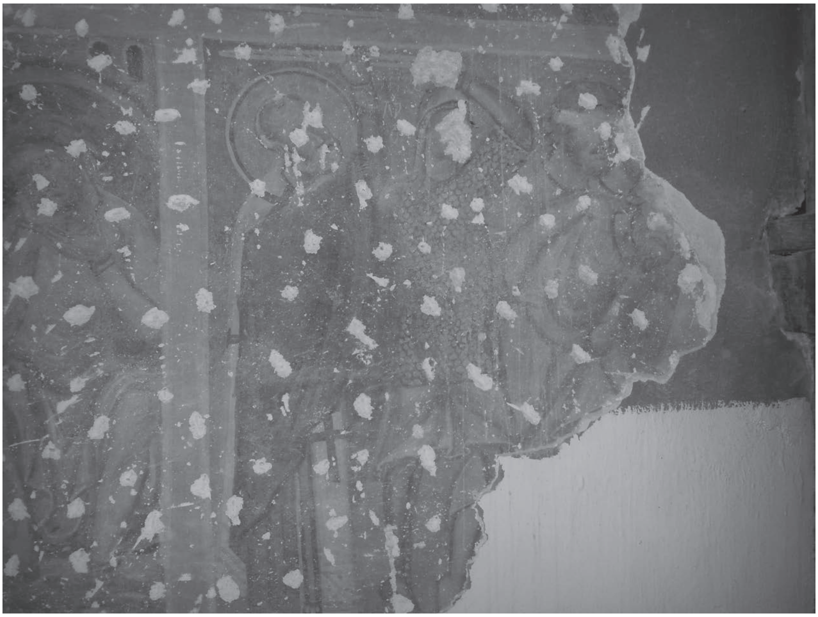


Figure II.7.3 Saint Nicholas saves three innocent men from execution, mural in southern apse, Church of Saint Nicholas, Jerusalem (Photo: Amit Re'em).© Amit Re'em

Nancy P. Sevčenko has discerned the scene in no less than 26 cycles out of the 45 identified in her extensive corpus of Saint Nicholas in Byzantine art. The corpus assembled by Sevčenko, which studies monumental as well as icon painting, and comprises cycles executed up to the sixteenth century in the Byzantine Empire, Serbia, Georgia and Romania, is still the most comprehensive such corpus to date and has been extremely valuable for the present study. According to the *Praxis de Stratelatis* and additional sources, three generals were sent by Emperor Constantine to put down a revolt and arrived in the region of Myra. They were welcomed by Bishop Nicholas who invited them into the city. On their way, some townspeople told the bishop that three innocent men were about to be executed. Nicholas then rushed to the site of execution to find the three men bent forward, with their hands bound behind their backs, their necks extended for the fatal blow. Rushing in at the very last moment, just as the executioner was raising his sword, Nicholas seized the sword and prevented the unjust execution. He then confronted the corrupt prefect who had sentenced the three men, causing him to repent and confess his sins. The three generals, perceiving Nicholas's goodness, asked him to pray for them, and then departed.

Returning to our mural, Nicholas, dressed in his clerical garments, is depicted on the left, raising his right hand and gripping the blade of the long sword being raised by the executioner, who is about to cut off the heads of the three innocent men in front of him. The three men are standing together in one group, blindfolded and bent forward, with their hands bound behind their backs. The executioner is attired in full chain-mail armor, topped with a pointed helmet on his head. His sword is raised aloft, ready for a powerful thrust, which is echoed by the firmness of Nicholas's grip of the sword with his outstretched hand.

The basic details of the panel follow the common formula of Byzantine depictions of the scene. Thus, although in a small number of examples (such as in the Church of St. Nicholas at Bojana from the mid-thirteenth century) one of the three men is separated from the others and about to be the first to be executed, in the most common formula the three are grouped together with their backs to the executioner, as is the case in our Jerusalem example.[7] This is the case in a mural from the church of St. Achilles in Arilje (Serbia) dated to the end of the thirteenth century, or from the early fourteenth-century cycle in the Church of St. George in Staro Nagoričino (Macedonia). Similarly, while in several early monuments (such as a late twelfth-century icon from the monastery of St. Catherine in Sinai) Nicholas is depicted grasping the executioner's arm or reaching for the blade, in most cases he is shown grasping the blade itself, as in Jerusalem. A good comparison, demonstrating the longevity of such portrayal, can be found in the fourteenth-century murals in the Church of Saint Demetrius in the Markov monastery in northern Macedonia (Figure II.7.4). The mural depicts Saint Nicholas grasping

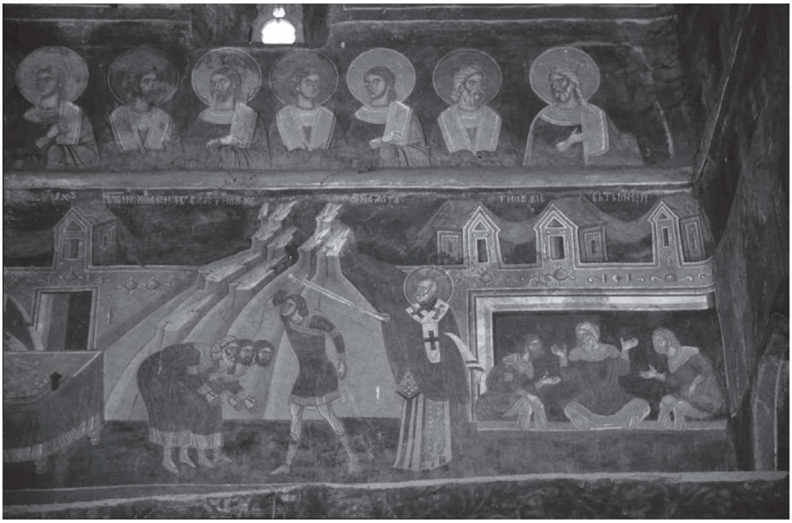


Figure II.7.4 Saint Nicholas saves three innocent men from execution, mural, Church of Saint Demetrius, Markov Monastery, northern Macedonia, fourteenth century.

---

[7] See Sevčenko, *Saint Nicholas in Byzantine Art*, 107.

the blade, with the three innocent citizens in one group (although with their faces toward the executioner).

The lower left panel depicts another episode from the story of the three generals. Having completed their mission they have been greatly honored by Emperor Constantine. This makes several other officers envious, and they plot against the three. They bribe the prefect Ablabius to betray the three generals, and he persuades Constantine that the generals have committed treason. Constantine then orders them to be imprisoned and subsequently beheaded. Desperate in their prison cell, the generals remember their encounter with Nicholas and his miraculous rescue of the three innocent men who, like them, had been unjustly accused. They therefore pray for the intervention of the saint. Upon this, Nicholas appears in a dream to both Emperor Constantine and the prefect Ablabius and orders them to release the generals. Astonished, the emperor orders the generals to be brought to his palace for interrogation. After learning from them about Saint Nicholas, he orders them to be released and sends them to give thanks to the saint who had saved them.

This event appears in the *Praxis de Stratelatis* too, and again a common one, with 24 appearances out of 45 in Sevčenko's corpus.[8] On the Jerusalem mural the three generals are shown seated in their prison cell, depicted as a structure comprising three low arches (Figure II.7.5). Each of the men expresses his despair

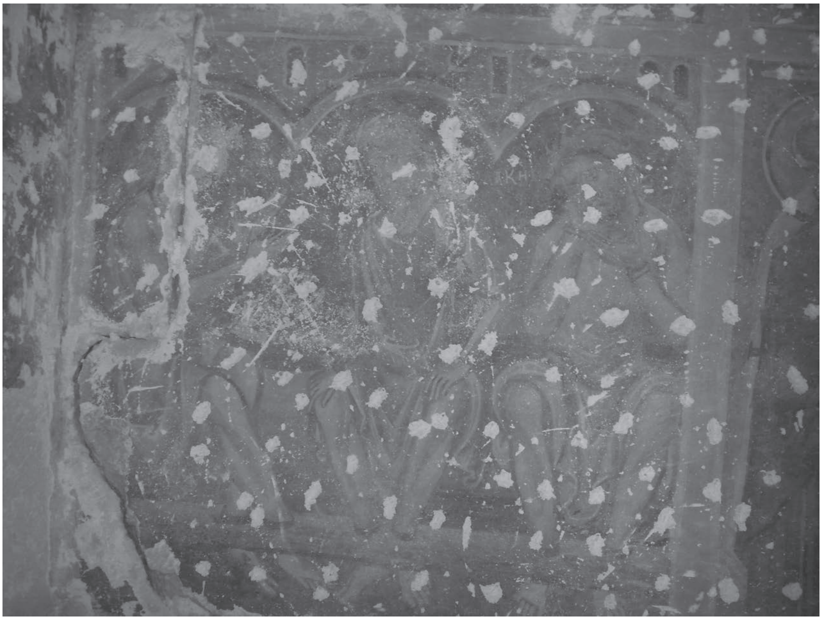


Figure II.7.5 The three imprisoned generals, mural in southern apse, Church of Saint Nicholas, Jerusalem (Photo: Amit Re'em). © Amit Re'em

and anguish through his posture and gestures. The general on the right leans his head to the side, supporting it with his right hand in a traditional gesture of the contemplation of death. His left hand is bent upwards, with open palm and fingers outstretched toward his two companions, in a gesture of conversation. His face has a severe expression, as if burdened with worry and dismay. The general in the center seems to be the oldest of the three, due to his white hair. His disquiet is expressed through his posture, as he leans rigidly forward, supporting his weight on his knees with both hands. His head and body are turned slightly to the side, toward the third general, to whom he appears to be listening. The third general, on the left, is portrayed from the side, turned toward his two companions. Both his hands are bent upwards and stretched forward with open palms, indicative of his speaking to his companions. All three have their ankles fettered within joint stocks depicted as an elongated heavy wooden board with round holes for the feet.

---

[8] Anrich, *Hagios Nikolaos*, 1: 71–88; Sevčenko, *Saint Nicholas in Byzantine Art*, 109–114.

As in the scene of the execution of the three innocent men, here too the iconography of the panel follows the Byzantine traditional formula, which remained consistent for centuries. Thus, already on an eleventh-century icon from Sinai the three generals are depicted seated in their cell, beneath an arch, engaged in conversation as expressed through their hand gestures. The central figure is the oldest, with white hair and beard. The legs of all three are fettered to the long wooden board of the stocks.[9] The same formula can be seen in the late twelfth-century Sinai icon noted previously (Figure II.7.6), as well as in the thirteenth-century depiction in the Church of St. Nicholas at Kastania.

The upper right panel in the Jerusalem cycle depicts Nicholas being ordained as a bishop (Figure II.7.7). This is again a popular scene in Nicholas cycles, featuring in 27 examples out of the 45 in Sevčenko's list.[10] On the left of the panel the consecrating bishop stands in front of an altar, with Nicholas bowing before him. Both have white hair and beard, indicating that this is indeed the scene of Nicholas's consecration as a bishop, and not that of his consecration as a priest or deacon, which often present the same basic iconography but with Nicholas being portrayed as a younger man. The consecrating bishop is placing his open palm, or an object of some sort, on Nicholas's chest. What this object might be is unclear, but one possibility is that this is a Gospel book, which, in the Byzantine consecration liturgy, the consecrating bishop places on the head and neck of the consecrated individual. In any case, this is unusual, as in most depictions of the consecration the consecrating bishop blesses or touches Nicholas's head (possibly making the sign of the cross above his head). Behind Nicholas stands another clergyman, holding liturgical vessels, including a censer. Damage to this part of

---

[9] Kurt Weitzmann, "Fragments of an Early Saint Nicholas Triptych on Mount Sinai," *Deltion tēs Christianikēs Archaiologikēs Hetaireias*, ser. 4, 4 (1964/66), 11–23; Geōrgios Soteriou and Maria Soteriou, *Icônes du Mont Sinai*, 2 vols. (Athens, 1956–58), 62–63, pl. 46.

[10] Sevčenko, *Saint Nicholas in Byzantine Art*, 76–85; See also Christopher Walter, "Church Appointments in Byzantine Iconography," *Eastern Churches Review* 10 (1978), 108–125.

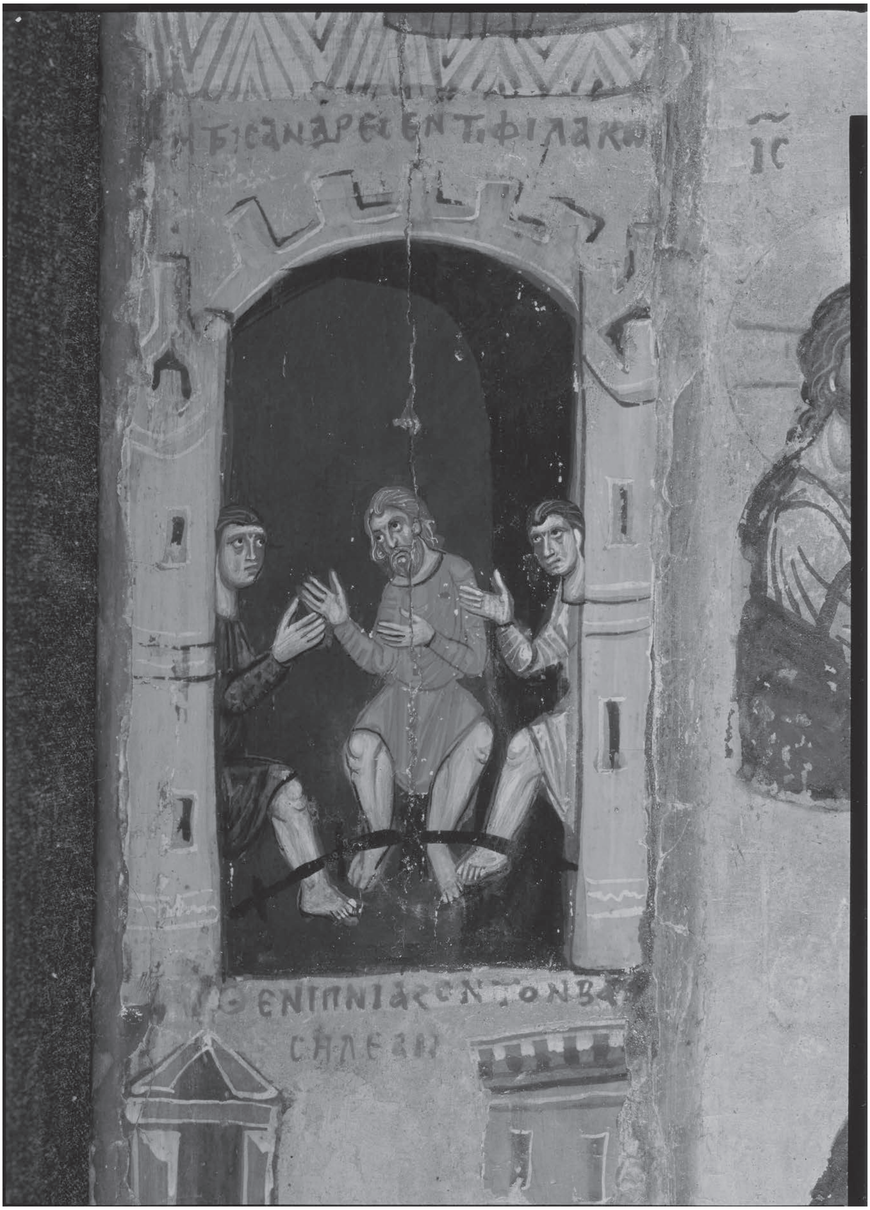


Figure II.7.6 The three imprisoned generals, icon with scenes of the life of Saint Nicholas, 83 x 57 cm, Monastery of St. Catherine, Mount Sinai, late twelfth century. Published courtesy of the Michigan-Princeton-Alexandria Expeditions to the Monastery of St. Catherine on Mount Sinai.

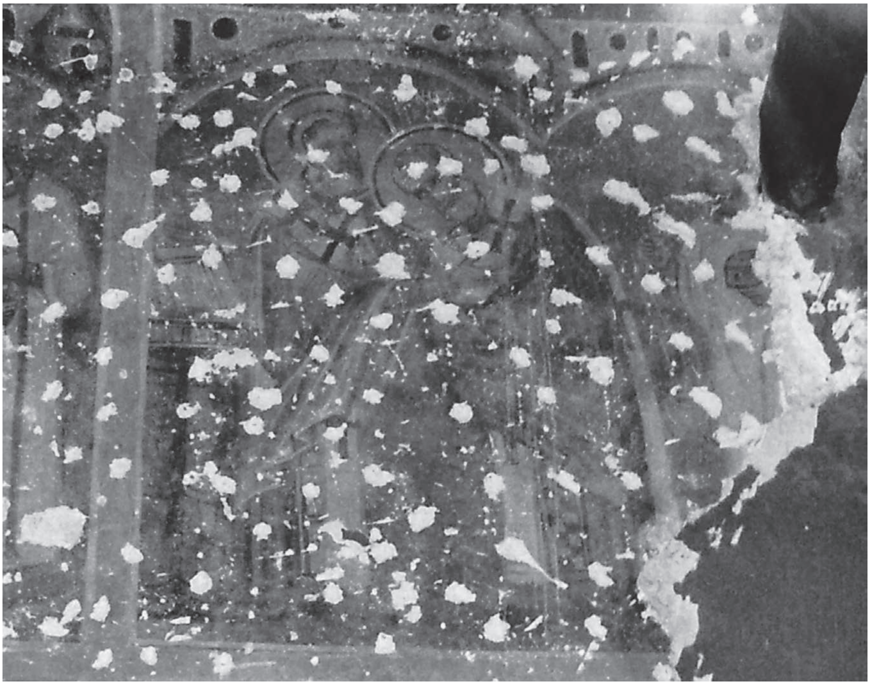


Figure II.7.7 Saint Nicholas ordained as a bishop, mural in southern apse, Church of Saint Nicholas, Jerusalem (Photo: Amit Re'em). © Amit Re'em

the cycle makes it impossible to establish whether any additional clergymen were originally also depicted here.

These details reveal a complex picture. Again, the iconography is faithful to the characteristics of the standard Byzantine formula for the consecration of Nicholas as a bishop. The essential elements that remain consistent and are part of the Jerusalem panel comprise an altar; the portrayal of the consecrating bishop as elderly; and the inclusion of one or more additional clergymen witnessing the consecration. However, alongside these standard details, the Jerusalem mural presents several variations: in almost every other representation the altar is shown between Nicholas and the consecrating bishop; a ciborium, which is a standard element of the Byzantine formula, is missing in Jerusalem; and the placing of the hand/object on Nicholas's chest is unusual.

The fourth surviving panel, on the upper left, depicts Nicholas celebrating Mass (Figure II.7.8). He is shown standing in front of the altar in his episcopal garments and holding an open scroll. He is bending over toward the altar, on which a book is placed. Behind him is another clergyman, holding the liturgical vessels,

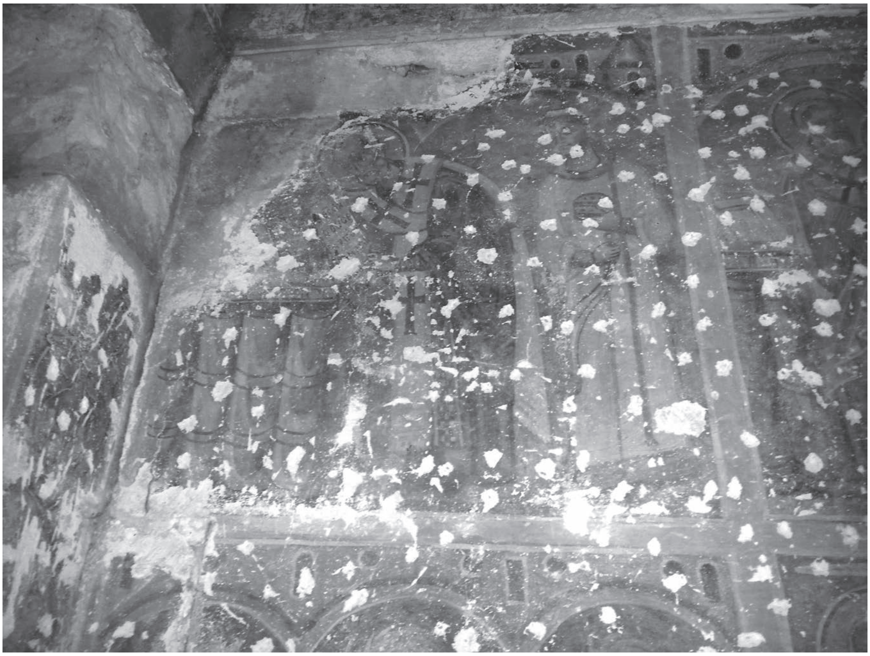


Figure II.7.8 Saint Nicholas celebrating Mass, mural in southern apse, Church of Saint Nicholas, Jerusalem (Photo: Amit Re'em). © Amit Re'em

again including a censer. In contrast to the other scenes that have survived in the cycle, Sevčenko has demonstrated that a depiction of Nicholas celebrating Mass is extremely rare. It is known to date only from two other cycles: the twelfth-century icon from Sinai already mentioned; and an icon from the fifteenth century, which is a copy of the earlier one.[11]

Another element that should be taken into consideration when examining the scenes is the effect of their inclusion as part of a cycle, which might have led the artist to diverge from the traditional formula in consideration of a compositional unity or continuity within the cycle as a whole. The adjacent pair of scenes on the lower register will serve as an example. As already noted, the location of the altar behind the consecrating bishop in the scene of the consecration of Nicholas contrasts almost all other representations, in which the altar is placed between Nicholas and the consecrating bishop. This divergence from the norm can be explained when viewed in conjunction with the adjacent scene on the left, depicting Nicholas performing the Mass. Both scenes share a similar composition, with the altar in the far-left corner, as well as certain other details, such as the clergyman holding a censer in the far-right corner. This compositional similarity creates a balanced rhythm between the two scenes, which may have been the reason for the decision to place the altar behind the bishop in the scene of the consecration.

---

[11] For the twelfth-century Sinai Icon see: Weitzmann, "Fragments of an Early Saint Nicholas Triptych on Mount Sinai"; Nancy P. Sevčenko, "The Vita Icon and the Painter as Hagiographer," *Dumbarton Oaks Papers* 53 (1999), 149–165; idem, "Vita Icons and 'Decorated' Icons of the Komnenian Period," *in Four Icons in the Menil Collection*, ed. Bertrand Davezac (Houston, 1992), 57–69; Paroma Chatterjee, "Archive and Atelier: Sinai and the Case of the Narrative Icon," in *Approaching the Holy Mountain. Art and Liturgy at St. Catherine's Monastery in the Sinai*, eds. Sharon E. J. Gerstel and Robert S. Nelson (Turnhout, 2010), 319–344.

These descriptions and analyses of the scenes clearly reveal that their basic iconography is Byzantine, with three out of the four scenes being some of the most common in Byzantine monumental cycles. Indeed, Saint Nicholas was central to Byzantine spirituality and art. He had a central place in the Byzantine liturgy, in which he is celebrated among the great hierarchs and doctors of the Church, such as Saint Basil, Saint Cyril, and Saint John Chrysostom.[12] Moreover, while monumental narrative cycles of saints' lives from the tenth to the fourteenth centuries were relativity rare in Byzantine church decoration, with only 18 saints known to be represented, and mostly in one to five cycles, Thalia Gouma-Peterson has shown that Saint George and Saint Nicholas are an exception to this rule, with more than 30 cycles each, thus placing the cycle in Jerusalem within a larger phenomenon regarding the more central place of Saint Nicholas in Byzantine church decoration.[13] It is important to note too that Saint Nicholas is among the saints frequently depicted on Byzantine narrative "Vita" icons.[14] Henry Maguire has suggested that the reason for the popularity of episodes from the legend of Saint Nicholas in Byzantine art is that Nicholas provided help in a wide variety of situations: helping people against unjust rulers, providing for the poor, and expelling demons. He was thus relevant to the lives of a large number of believers and considered both a powerful protector against harm, envy, and the evil eye, as well as an effective saint who could also be expected to be a good advocate at the Last Judgment.[15] This popularity of Nicholas places the cycle in Jerusalem well within the Byzantine traditions and artistic developments in the twelfth and thirteenth centuries.

---

[12] Meletius Michael Solovey, *The Byzantine Divine Liturgy. History and Commentary,* trans. Demetrius Emil Wysochansky (Washington, DC, 1970), 126; Sarah Burnett, *The Cult of Saint Nicholas in Medieval Italy*, PhD Diss. (University of Warwick, 2009), 7; Charles W. Jones, *The Saint Nicholas Liturgy and its Literary Relationships (Ninth to Twelfth Centuries)* (Berkeley, 1963).

[13] Thalia Gouma-Peterson, "Narrative Cycles of Saint's Lives in Byzantine Churches from the Tenth to the Mid-Fourteenth Century," *Greek Orthodox Theological Review* 30/1 (1985), 31–44; Henry Maguire, *The Icons of Their Bodies. Saints and Their Images in Byzantium* (Princeton, NJ, 1996), 169–186.

[14] See note n. 11.

[15] Maguire, *The Icons of Their Bodies*, 169–170, 185. In her study of Saint Nicholas in medieval Italy Sarah Burnett also indicates that the variety of the miracles performed by Nicholas might have contributed to his becoming a patron of such diverse groups as prisoners, children, and sailors. See: Burnett, *The Cult of Saint Nicholas in Medieval Italy*, 7.

We can now therefore ask whether the Western, Crusader presence in Jerusalem in the twelfth (and part of the thirteenth) century has any expression in the cycle: that is, can we find any evidence of a Western tradition of the depiction of Saint Nicholas within our cycle?

By the twelfth century, the cult of Saint Nicholas had been known in the medieval West for centuries and become slowly integrated into Western life, for example in the liturgy and hagiography.[16] However, while this tradition was tightly anchored in the Greek hagiographical corpus of Saint Nicholas, the translation of the saint's relics to Bari in 1087[17] initiated a process of Latinization in which the Latin hagiography of Saint Nicholas began to depart from that of the Greek and to produce a corpus of traditions and events unique to the Latin west. Among the events that became part of the Western tradition of Saint Nicholas's legend, and which are not part of the Greek hagiography, are those of a miracle in which the saint revives a boy who was strangled by the Devil and miracles concerning the conversions of Jews.[18] In an extensive study, Sarah Burnett analyzes the processes of Latinization of the iconography of Saint Nicholas in Italy following the 1087 translation. Among others, she identifies the transformation from the Greek to the Latin Nicholas in such characteristics as his depiction in a Latin bishop's episcopal garments or with new attributes foreign to the Byzantine pictorial traditions.[19] Studying 31 Italian cycles from the life of the saint (ranging from the eleventh to the fifteenth century) as well as 33 additional individual narrative scenes, Burnett identifies central elements of the Byzantine influence in Italy itself, alongside noticeable differences. In the Italian cycles the choice of subjects differs from those in the Byzantine examples. Thus, while the scenes from the *Praxis de Stratelatis* narrative (among them the rescue of the three citizens from execution, and the liberation of the three generals from prison) are the most common in Byzantine cycles, they are only the third-most commonly depicted episodes in the Italian representations, being outnumbered by the stories of Nicholas providing the dowry for three destitute sisters and of the saint saving a ship from a storm.[20]

---

[16] Jones, *The Saint Nicholas Liturgy and Its Literary Relationships*; Burnett, *The Cult of Saint Nicholas in Medieval Italy*, 22–31; Joel Fredell, "The Three Clerks and St. Nicholas in Medieval England," *Studies in Philology* 92/2 (1995), 181–202.

[17] For the cult of Saint Nicholas in Bari see Dawn Marie Hayes, "The Cult of Nicholas of Myra in Norman Bari, ca. 1071-ca. 1111," *Journal of Ecclesiastical History* 67/3 (2016), 492–512; Charles W. Jones, "The Norman Cults of Sts Catherine and Nicholas, saec. XI," *Collection Latomus* 145 (1976), 216–230; for the translation itself see: Marjorie Chibnall, "The Translation of the Relics of Saint Nicholas and Norman Historical Tradition," in *Le relazioni religiose e chiesastico-giurisdizionali: atti del Congresso di Bari, 29–31 ottobre 1976* (Rome, 1979), 31–41.

[18] Jones, *The Saint Nicholas Liturgy and its Literary Relationships*; Burnett, *The Cult of Saint Nicholas in Medieval Italy*, 22–60.

[19] Burnett, *The Cult of Saint Nicholas in Medieval Italy*, 62–90.

[20] Ibid., 79–83.

In light of this, the choice of scenes in the Jerusalem cycle, at least in its partial state of survival, does not reveal any indication of a Western influence, but rather adheres to the Byzantine norms.

However, while the general iconography and choice of scenes are therefore Byzantine, at least one detail may indicate a Western influence, or even the involvement of a Western artist. In the scene of Saint Nicholas rescuing the three innocent citizens, the executioner's armor is made of chain mail. This is typical in Western art but is extremely rare in Byzantine art. In his study of Byzantine armor, Piotr L. Grotowski concludes that chain mail does not appear in either early or Middle Byzantine art, whether sacred or secular.[21] Even more telling, Grotowski notes that among the earliest examples of saints depicted in chain mail are a thirteenth-century icon of Saint George, now in the British Museum, and an icon of Saint Theodore and Saint George Diasorites on horseback, in the collections of St. Catherine's Monastery on Mt. Sinai, both of which are associated with Latin workshops.[22]

In light of all this, we come now to the question of dating the Jerusalem mural and ask whether the details of the four surviving panels are indicative of a twelfth-century date? The picture that emerges is complex. In regard to the scene of Nicholas rescuing the three innocent citizens from the blade of the executioner, Sevčenko has noted that in the earliest representations Nicholas does not hold the blade itself, and that this detail only appears in the thirteenth century. However, there are very few extant examples of this scene from the twelfth century, and these comprise only two cycles – the twelfth-century icon from Sinai and a mural from the Church of St. Sophia at Monemvasia (which might be from the early thirteenth century). It would seem, therefore, that there is insufficient evidence to conclude that in the Jerusalem mural, the fact that Nicholas holds the blade itself points to a thirteenth-century dating. In regard to the scene of the three generals in prison, in this case the formula featuring in the Jerusalem panel is predominant in the eleventh through thirteenth centuries. While this formula remained common in the succeeding centuries as well, in the late thirteenth century variations appeared, including those depicting the image of Nicholas himself, and those in which the generals are not fettered. Thus, while there is nothing in the Jerusalem panel to support a later date than the twelfth century, it is again problematic to use the specific details as proof of dating, as the Byzantine formula had remained consistent for several centuries.

---

[21] Piotr L. Grotowski, *Arms and Armour of the Warrior Saints. Tradition and Innovation in Byzantine Iconography (843–1261)* (Leiden, 2010), 154–162. See also J. F. Haldon, "Some Aspects of Byzantine Military Technology from the Sixth to the Tenth Centuries," *Byzantine and Modern Greek Studies* 1 (1975), 11–46.

[22] Grotowski, *Arms and Armour of the Warrior Saints*, 161, and Figure 56. For so-called 'crusader icons' see: Kurt Weitzmann, "Thirteenth Century Crusader Icons on Mount Sinai," *The Art Bulletin* 45/3 (1963), 179–203; idem, "Icon Painting in the Crusader Kingdom," *Dumbarton Oaks Papers* 20 (1966), 49–83; idem, "Four Icons on Mount Sinai: New Aspects in Crusader Art," *Jahrbuch der österreichischen Byzantinistik* 21 (1972), 279–293. See also the assessment of Annemarie Weyl Carr in "East, West and Icons in Twelfth-Century Outremer," in *The Meeting of Two Worlds – Cultural Exchange Between East and West During the Period of the Crusades*, ed. Vladimir P. Goss (Kalamazoo: Western Michigan University, 1986), 347–359.

The stylistic as well as the technical and archeological aspects of the cycle, however, would seem to support a twelfth-century dating. Important considerations in this respect are:

1. The style of the paintings is indicative of the twelfth century, in the supple and flowing drapery and nuanced color gradations, as well as the tall and elongated proportions of the figures.
2. Of the twelfth-century phase of the church, only the lower parts of the walls of the apses remain, and the remains of the mural are found only in the lower part of the southern apse. No traces of murals have been found elsewhere in the church, which was restored in the Ottoman period.
3. The mural had been applied directly onto the stone, which exhibits the characteristic diagonal dressing of Crusader masonry, and later became covered over by the layers of plaster and paint deposited across the centuries.
4. On the lintel of the apse wall, bordering the painting, is a mural with a vegetal decoration that closely resembles a design on the stones of a Crusader voussoir at Crac des Chevaliers, dated to the late twelfth and early thirteenth centuries.[23]
5. The red frame bordering the registers resembles frames found on wall frescoes at the Church of the Lord's Resurrection at Abu Gosh, dated to the 1160s–1170s, and at the abbey of Santa Maria in Jehoshaphat, dated to the third quarter of the twelfth century.[24]
6. The derails of the architectural setting in which three of the scenes take place – comprising large arches supporting a wall adorned with square or round windows – are similar to those depicted in Crusader paintings and sculpture, such as those on the sculpted lintels of the portal at the Church of the Holy Sepulcher.
7. The executioner's armor is made of chain mail, which is typical of the Crusader period, as noted earlier.

Taking all this into consideration, what can we learn from the Saint Nicholas cycle about the development of painting in the Greek-Orthodox community in

---

[23] Jaroslav Folda, P. French and P. Coupel, "Crusader Frescoes at Crac des Chevaliers and Marqab Castle," *Dumbarton Oaks Papers* 36 (1982), 181.

[24] Jon Seligman, "A Wall Painting, a Crusader Flood Diversion Facility and other Archaeological Gleanings from the Abbey of the Virgin Mary in the Valley of Jehoshaphat, Jerusalem," in *Christ Is Here! Studies in Biblical and Christian Archaeology in Memory of Michele Piccirillo, OFM*, ed. L. D. Chrupcala (Milan, 2012), 197–211; Gil Fishhof, "Hospitaller Patronage and the Mural Cycle of the Church of the Resurrection at Abu-Gosh (Emmaus) – A New Reading," in *The Military Orders*, 6, *Culture and Conflict in the Mediterranean World*, eds. Jochen Schenk and Mike Carr (Oxon and New York, 2017), 82–93.

Jerusalem in the twelfth century? The most important thing to understand is the extent to which the Nicholas cycle adheres to Byzantine traditions, both in the choice of scenes and in its basic iconography. The discussed mural offers a strong new example of the Byzantine nature of painting in the Latin Kingdom. Western influences seem to be secondary here, limited to details such as the chain mail of the executioner. Of course, when making this observation, we have to remember that the cycle survived only partially, and at the present state of our knowledge there is no way of knowing what were the additional scenes, or if these revealed other characteristics than discussed here.

The head of an angel from the Church of St. Anne (Dair as-Saidnaiya)

The aforementioned list of 13 Greek-Orthodox churches to the west of the Church of the Holy Sepulcher also notes a Church of St. Anne in addition to that of St. Nicholas.[25] The Church of St. Anne is mentioned in additional pilgrim accounts and lists of Greek-Orthodox churches throughout the centuries, such as in the detailed list of 17 churches and monasteries by the Russian pilgrim Basil Posniakov (1558).[26]

The present Church of St. Anne is post-medieval. However, several vaulted rooms may be of an earlier period, possibly Crusader (we are unable at present to determine the exact medieval plan of the church). In one of the vaulted rooms on the north side of the church (possibly the northern narthex), a delicate painted head has been preserved. It is located high up on the upper left side of an arch, truncated by what must be a later vault that cuts into the mural. This later vault supports the upper floor of the current abbey. The head was restored in 2010 (Figure II.7.9).[27]

The surviving stretch of mural consists in a beautiful delicate head and parts of the torso (Figure II.7.10). The figure (possibly an angel) wears a pinkish robe with what might be a blueish undergarment, and its head is adorned with an ocher halo delineated by white and red lines. The face is round, with small, red, rounded lips, of which the lower lip is thicker and fleshier and more rounded, while the upper lip is thinner and stretches to both sides. The nose is aquiline, with the ridge

---

[25] Anonymus Graecus, *De Locis Hierosolymitanus*, col. 981; Denys Pringle, "Nunnery Church of St Anne (Dair as-Saidnaiya, Mikra Panagia)," in idem, *The Churches of the Crusader Kingdom of Jerusalem: A Corpus*, vol. 3 (Cambridge, 2007), 156–157.

[26] Basile Posniakov, *Le pèlerinage du marchand Basile Posniakov aux saints lieux de l'Orient, 1558–1561*, trans. B. de Khitrowo, in *Itinéraires russes en Orient* (Geneve, 1889), 326; Rehav Rubin, "Greek Orthodox Monasteries in the Old City of Jerusalem," *Eretz-Israel* 17 (A. J. Brawer Memorial Volume, 1984), 109–116 (in Hebrew).

[27] ΕΥΤΥΧΙΑ ΠΑΠΑΔΟΠΟΥΛΟΥ, ΑΡΓΥΡΗΣ ΚΟΝΙΔΙΤΣΙΩΤΗΣ, *ΙΕΡΑ ΜΟΝΗ ΣΕΪΔΑΝΑΓΙΑΣ ΠΑΛΑΙΑ ΠΟΛΗ ΤΩΝ ΙΕΡΟΣΟΛΥΜΩΝ. ΤΕΧΝΙΚΗ ΕΚΘΕΣΗ – ΑΝΑΦΟΡΑ ΕΡΓΑΣΙΩΝ ΣΥΝΤΗΡΗΣΗΣ ΤΟΙΧΟΓΡΑΦΗΜΕΝΗΣ ΠΑΡΑΣΤΑΣΗΣ ΑΓΓΕΛΟΥ*, 2010. (= Eutychia Papadopoulou, Argyris Koniditsiontis, *Holy Monastery of Saidnaiya, Old City of Jerusalem – Technical Report and Report on Restoration of a Painted Angel*, 2010).

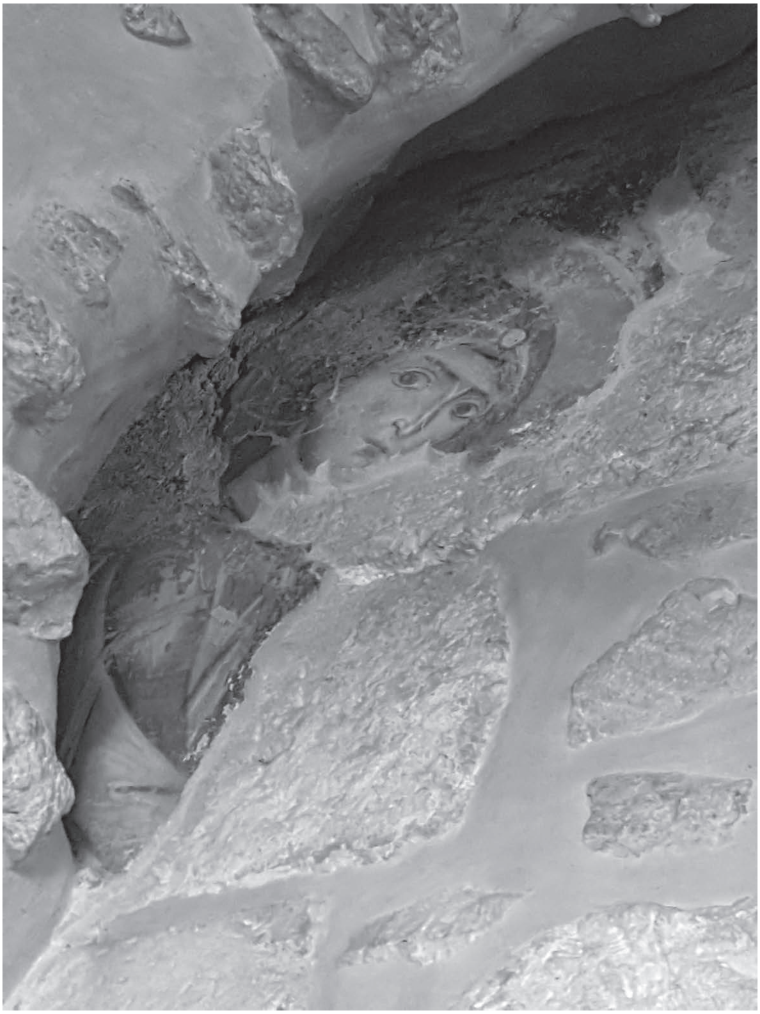


Figure II.7.9 Angel, Church of St. Anne (Dair as-Saidnaiya), Jerusalem (Photo: Amit Re'em). © Amit Re'em

prominently marked. The cheeks are adorned with a rosy hue. The eyes of the figure are large and piercing, an effect that may have been meant to create a distance from the physical realm and deny a terrestrial or material embodiment.[28] The hair is

---

[28] Glenn Pierce, *Subtle Bodies. Representing Angels in Byzantium* (Berkeley and Los Angeles, 2001), 198–199.

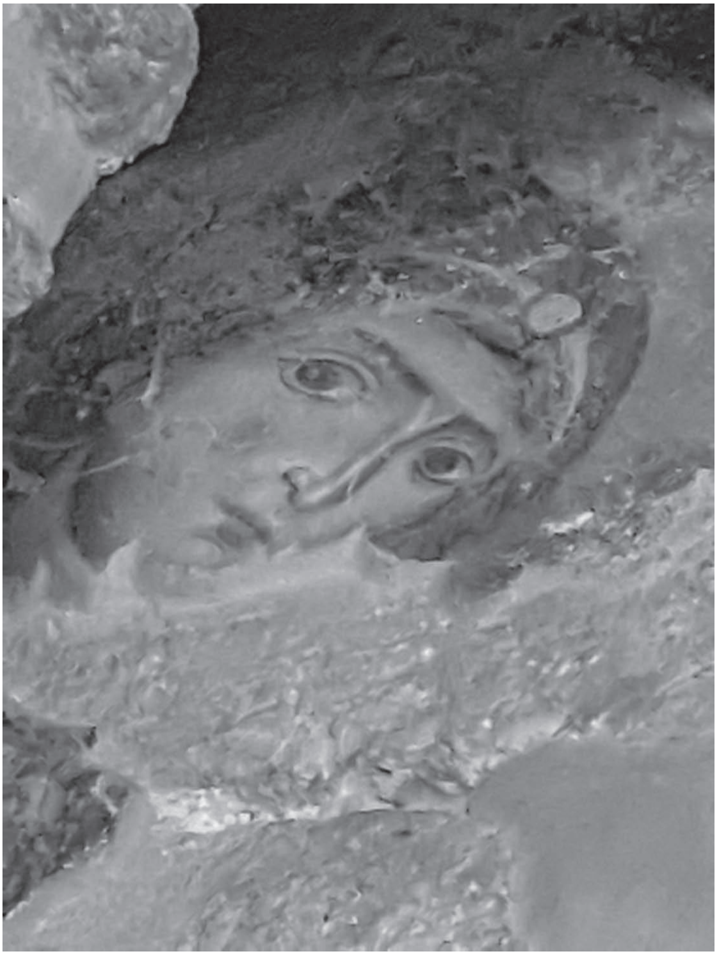


Figure II.7.10 Angel (detail of head), Church of St. Anne (Dair as-Saidnaiya), Jerusalem (Photo: Amit Re'em). © Amit Re'em

gathered up by a ribbon with a fine gem at its center. The face is rather voluminous, with a gradual transition from darker areas at the sides toward brighter areas at the center. The identification of the head is not certain, but comparisons (for example, with the nave mosaics of the Church of the Nativity at Bethlehem), and especially the characteristic ribbon that often adorns an angel's head,[29] suggest that this is indeed the head of an angel. The posture of the body as a whole appears to turn toward the left, to what might have been an additional figure, or figures, depicted on the central upper part of the arch. This seems to indicate that the figure of the supposed angel was originally part of a larger composition. The head is depicted in a three-quarter position, so that while still addressing a possible figure at the center of the composition, it also addresses the visitor entering the space.

---

[29] The ribbon was sometimes understood as signifying the purity and chastity of the undefiled nature of the angels, or the purity of their intellect. See: Kenneth Snipes, "An Unedited Treatise

As nothing has survived from any additional figures that might once have been part of the mural, we cannot conclude with any certainty what was the subject depicted. Several possibilities come to mind, including that of angels surrounding a central figure, which might have been Christ or the Virgin Mary. The restorers of the mural have suggested that the scene might have been the Virgin Mary between guardian angels.[30]

Regarding the date of the work, while the restorers have suggested a late thirteenth-century dating, we believe, rather, that the work might be twelfth-century, as the relation of this head to Comnenian art is indicated by its style, such as the triangle at the bridge of the aquiline nose. Several comparisons with twelfth-century paintings from Jerusalem and its surroundings are especially revealing, as follows:

A comparable painted head of an angel comes from a chapel comprising part of the Crusader gate complex excavated by Hennessay at the Damascus Gate in Jerusalem.[31] The head reveals a vigor and quality of tense energy, both in its vivid colors and in its forward thrust, emphasizing the movement of the angel toward the Virgin. Such vitality is comparable with Annunciation scenes from Constantinopolitan manuscripts from the mid-twelfth century, leading Lucy-Anne Hunt to suggest that the artist who executed the cycle at the Damascus Gate was probably a Byzantine rather than a Latin artist.[32]

Another comparable head of an angel, together with part of the crossed nimbus of Christ, from the Church of the Agony at Gethsemane, has been identified by Bagatti as a fragment of a Christ in Majesty (Figure II.7.11).[33] Noting that the head of the Gethsemane angel shares the modeling of the face and hair of

---

of Michael Psellos on the Iconography of Angels and on the Religious Festivals Celebrated on Each Day of the Week," in *Gonimos. Neoplatonic and Byzantine Studies Presented to Leendert G. Westerlink at 75*, eds. John M. Duffy and John Peradotto (Buffalo, 1988), 200; Pierce, *Subtle Bodies*, 203–204.

[30] Papadopoulou, Koniditsiontis, *Technical Report and Report on Restoration*, 5.

[31] John Basil Hennessay, "Preliminary Report on Excavations at the Damascus Gate Jerusalem, 1964–6," *Levant* 2 (1970), 22–27; G. J. Wightman, *The Damascus Gate, Jerusalem: Excavations by C. M. Bennett and J. B. Hennessy at the Damascus Gate* (Jerusalem 1964–66, Oxford, 1989), 52–54, 138–143.

[32] Lucy-Anne Hunt, "Damascus Gate, Jerusalem, and Crusader Wall Painting of the Mid-Twelfth Century,"in *Crusader Art in the Twelfth Century*, ed. Jaroslav Folda (Jerusalem, 1982), 191–214. Jaroslav Folda suggested a later date, in the 1170s. See: Folda, *The Art of the Crusaders in the Holy Land, 1098–1187*, 379–382.

[33] Bellarmino Bagatti, "Tempera nell'antica basilica dei Gethsemane," *Rivista di Archeologica Christiana* 15 (1938), 153–159.

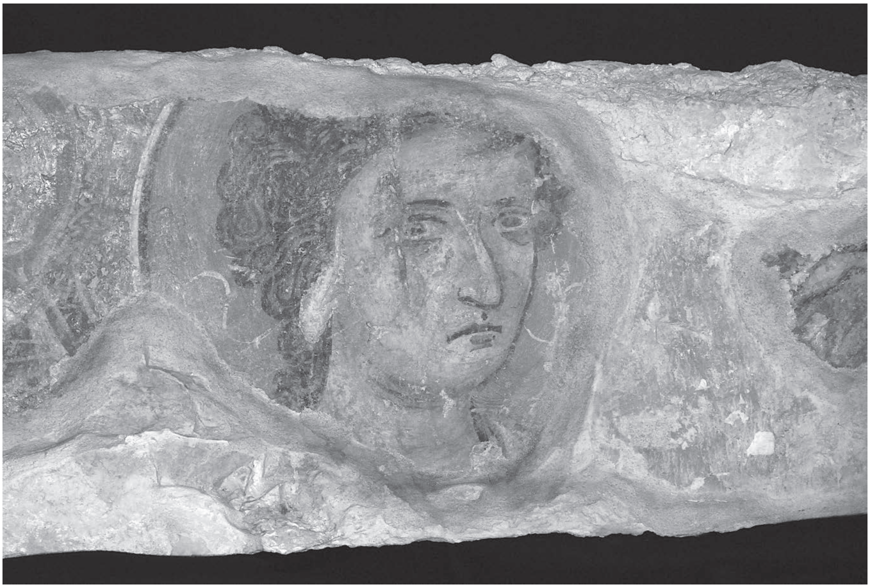


Figure II.7.11 Fragment of head of an angel, possibly from a scene of Christ in Majesty, Crusader Church of the Agony at Gethsemane, Jerusalem, mid- or third quarter of the twelfth century.

the Damascus Gate angel, Hunt assigned a similar mid-twelfth-century dating to both works. However, as the Gethsemane artist displays a more static approach, revealed by the vertical alignment of the head and neck, causing the head of his angel not to display the same sense of intensity as that of the Damascus Gate, she has suggested that he may have been a Latin artist who had worked according to Byzantine models.[34]

The head from Gethsemane is especially close in style to that of the angel from Saidnaiya. It shares with it the rounded fleshier lower lip and thinner upper lip, as well as the aquiline nose with a prominently marked ridge. Similar characteristics can be found in the heads of the angels adorning the clerestory of the nave of the Church of the Nativity in Bethlehem, which also display the fleshier lower lip and the aquiline nose (Figure II.7.12). A full discussion of the iconography and style of the Bethlehem mosaics is beyond the scope of the present discussion. However, it should be noted that they can be dated to the 1160s and that the involvement of Emperor Manuel Comnenus in the mosaic program of Bethlehem is well known,

---

[34] Hunt, “Damascus Gate,” 196.

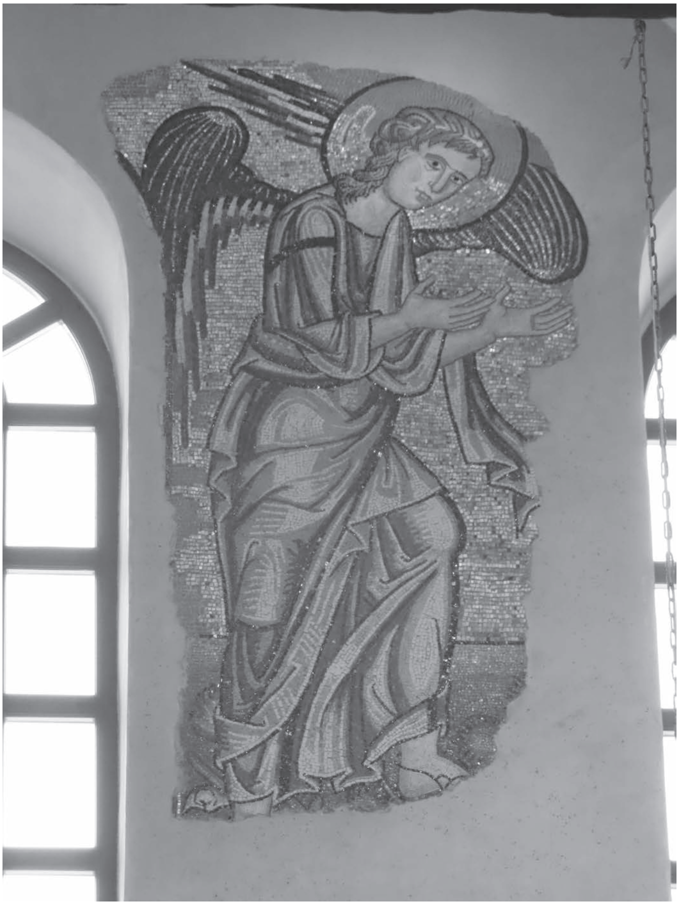


Figure II.7.12 Angel, mosaic at clerestory level, nave, Church of the Nativity, Bethlehem.

as is the involvement of local artists, including Basilius, who is mentioned in a double inscription, in Latin and Syriac, at the feet of the third angel from the crossing on the north wall.[35]

---

[35] The bibliography on the Bethlehem mosaics is vast. See most recently: Bianca Kühnel, Gustav Kühnel, *The Church of the Nativity in Bethlehem. The Crusader Lining of an Early Christian Basilica* (Regensburg, 2019); Michele Bacci, *The Mystic Cave: A History of the Nativity Church at Bethlehem* (Brno, 2017); Andrew Jotischky, "Manuel Comnenus and the Reunion of the Churches: The Evidence of the Conciliar Mosaics in the Church of the Nativity in Bethlehem," *Levant* 26 (1994), 207–223. For the question of the style of the Bethlehem mosaics see: Anthony Cutler,

Another possible comparison is to the head of the Virgin discovered by Ronny Reich and Eli Shukron during an excavation in the Mammilah area of Jerusalem, on the outside of the Jerusalem Old City wall, northwest of the Jaffa Gate. The head adorns a stone found in a large stone collapse of an Ayyubid fortification, in which were also found architectural fragments, such as parts of a chancel screen. The head apparently originated in a Crusader church built in the area, which was later used as a source of construction material for the Ayyubid fortification.[36] The head is over life-size, with the Virgin wearing a dark robe whose folds are accentuated by blue coloration, perhaps intended to suggest shadows. The head of the Virgin resembles that of both the angel from Saidnaiya and the one from Gethsemane in the depiction of the lips and the aquiline nose, although the head has a flatter appearance.

All four cases presented here for comparison were therefore probably created in the second half of the twelfth century, each with its own variant of the Byzantine style, and thus demonstrating that the style of this period was not uniform and was influenced by both Byzantine and Latin artists. The head of the angel from Saidnaiya seems to have been part of this artistic activity within the Latin Kingdom of Jerusalem, also showing that stylistic similarities can be found between mural cycles that were commissioned for Latin as well as for Orthodox churches.

The murals and the status of Eastern Christians in the Latin Kingdom

Assessment of the nature of the relations between the ruling Latins and the indigenous Eastern Christians in the Kingdom of Jerusalem underwent major changes throughout the twentieth century. In the decades following the Second World War, Prawer and Smail portrayed the society of the Latin Kingdom as one in which a gulf existed between the Westerners and all of the conquered groups, and which was characterized by segregation.[37] According to this line of thought there was hostility and dissociation between the groups for several reasons: because the Latins had taken the place of the Greeks in the ecclesiastical hierarchy in the Holy Land and because the eastern Christians had allegedly no reason to prefer Frankish rule over the Muslim one, since Islam prohibited offences against the Christians, who had kept their autonomy during hundreds of years of Muslim rule.[38]

"Ephraim, Mosaicist of Bethlehem: The Evidence from Jerusalem," *Jewish Art* 12–13 (1986–87), 179–183; Lucy-Anne Hunt, "Art and Colonialism: The Mosaics of the Church of the Nativity in Bethlehem (1169) and the Problem of 'Crusader' Art," *Dumbarton Oaks Papers* 45 (1991), 69–85.

[36] Ronny Reich and Eli Shukron, "Excavations in the Mamillah Area, Jerusalem: The Medieval Fortifications," *'Atiqot* 54 (2006), 144–145.

[37] Joshua Prawer, *The Latin Kingdom of Jerusalem. European Colonialism in the Middle Ages* (London, 1972), 214–232; Raymond C. Smail, *Crusading Warfare 1097–1193* (Cambridge, 1956), 40–63.

[38] Ronnie Ellenblum, *Frankish Rural Settlement in the Latin Kingdom of Jerusalem* (Cambridge, 1998), 23.

More recently, however, a much more nuanced image of the relations between the Latins and the indigenous Eastern Christians was offered by Ellenblum, Kedar, Murray, and Riley-Smith.[39] From these studies emerged a picture of a society in which the Franks lived side by side with the Eastern Christians, also in rural areas, and in which both groups maintained manifold relations.[40] Most recently MacEvitt presented a model that he termed 'rough tolerance', which perceives the relations of the Latins with the Eastern Christians as encompassing conflict and oppression, but at the same time allowing multiple religious communities to coexist.[41]

As for artistic developments, there is evidence that while the subjugation to Latin rule had had severe consequences for the influence and power of the Eastern Christians, it did not entail a halt in artistic or building endeavors. Some idea of the possible extent of wall painting in Orthodox churches in the Latin Kingdom, from which very little has survived, can be gauged from the remains in present-day Syria and Lebanon.[42] Patronage by Emperor Manuel Comnenus could also have been a factor strengthening the possibility of the existence of a rich corpus of monumental painting in Orthodox churches. Manuel Comnenus gave money mostly to the major shrine churches of Christendom and the Holy Land that also had an Orthodox presence, such as the Church of the Holy Sepulcher and the Church of the Nativity in Bethlehem. In addition, his imperial munificence was directed toward the rebuilding or restoration of Orthodox monasteries in the Holy Land, such as those of Saint-John the Baptist near the River Jordan and Saint-Elijah, which was restored by the emperor at the request of a single Orthodox monk.[43]

Seen in this context, the two murals discovered in Jerusalem can be seen as important evidence revealing the investment in monumental art by minority Orthodox communities hard hit in the twelfth century by the Latin conquest and Kingdom. More so, examples of religious mural cycles to date have come mostly from large shrines, or other holy sites, such as the column paintings in the Church of the Nativity at Bethlehem, the church of Abu-Ghosh, the crypt in the Greek monastery at Sebaste, and the Church of the Agony at Gethsemane. The murals discussed here, which must have been considerable in their full scope, attests to the importance of mural painting and its prevalence even in (supposedly) lesser edifices.

---

[39] Benjamin Z. Kedar, "Latins and Oriental Christians in the Frankish Levant, 1099–1291," in *Sharing the Sacred: Religious Contacts and Conflicts in the Holy Land, First-Fifteenth Centuries*, eds. Guy G. Stroumsa and Arieh Kofsky (Jerusalem, 1998), 209–222; Ellenblum, *Frankish Rural Settlement*; Jonathan Riley-Smith, "Government and the Indigenous in the Latin Kingdom of Jerusalem," in *Medieval Frontiers: Concepts and Practices*, eds. David Abulafia and Nora Berend (Aldershot, 2002), 121–131; Alan Murray, "Franks and Indigenous Communities in Palestine and Syria (1099–1187): A Hierarchical Model of Social Interaction in the Principalities of Outremer," in *East Meets West in the Middle Ages and Early Modern Times*, ed. Albrecht Classen (Berlin, 2013), 291–309.

[40] Kedar, "Latins and Oriental Christians," 221.

[41] Christopher MacEvitt, *The Crusades and the Christian World of the East. Rough Tolerance* (Philadelphia, 2008), 2–3.

[42] See Matt Immerzeel, *Identity Puzzles: Medieval Christian Art in Syria and Lebanon*, Orientalia Lovaniensia Analecta, 184 (Leuven, 2009).

[43] See Andrew Jotischky, "Manuel Comnenus and the Reunion of the Churches: The Evidence of the Conciliar Mosaics in the Church of the Nativity in Bethlehem," *Levant* 26 (1994), 207–223; Krijna Ciggaar, "The Emperor Manuel Comnenus (1143–1180), His Patronage and Image Building in the Latin States in Outremer, and the Mystery of the Friuli Bible," *Eastern Christian Art in its Late Antique and Islamic Contexts* 5 (2008), 1–17.

Conclusion: the murals within the context of art in the Latin Kingdom

In conclusion, both the head of the angel in Saidnaiya and the painted mural cycle in the Church of Saint Nicholas belong to the context of artistic developments in the art of the Orthodox Christian communities. However, they also shed light on the development of art in the Latin Kingdom in general, in several aspects: first, the appearance of Western influences (although minor), as well as the stylistic affinity between the Saidnaiya head and additional heads from other churches in Jerusalem, some of which were Latin, attest to possible artistic connections between the different communities, although, as we have seen, the general character of the Nicholas cycle is by and large Byzantine; second, the two new murals demonstrate the diversity and vitality of the Byzantine style and iconography in Jerusalem in the twelfth century, as well as the varying degrees to which each cycle displayed a Western influence. Taking into account that most of the cycles known to date are from edifices under Latin patronage, or from the major shrines in which both Latins and Greeks shared the sacred space, the discovery of two painted cycles in Greek-Orthodox churches is of considerable importance in expanding our understanding of the development of monumental painting in Jerusalem in the twelfth century.

8 Franks, locals and merchants

Ceramic production in the Latin East

Edna J. Stern

Introduction[1]

Life in the Latin States of the Levant – the Kingdom of Jerusalem, the Counties of Tripoli and Edessa, the Principality of Antioch and the Kingdom of Cyprus – brought together local populations, Frankish settlers and foreign merchants between c. 1099 and 1291. The consequent cultural encounters and interactions have been studied in the past years through art, government, religion, foodways and more.[2] Cross-cultural influences can also be recognized in various material culture remains, including ceramic vessels used for storing, processing, cooking and serving food.[3]

---

[1] It is a great pleasure to write a chapter for this volume in honor of Prof. Adrian Boas, who was my supervisor in my M.A. and Ph.D. studies. I would like to thank him for sharing his knowledge and for his guidance then and in the following years. I would also like to thank the editors of this volume, Rabei G. Khamisy, Rafael Lewis and Vardit R. Shotten-Hallel, for inviting me to write this chapter, which provided an opportunity to synthesize the data relating to ceramic production in the Latin East, from previous studies, and my own research (see note 3). Thanks are due to the Israel Antiquities Authority, for permission to mention and reproduce pottery from its excavations, to Clara Amit, Howard Smithline and Danny Syon, Yona Waksman and Daphna Stern for the photographs, to Sapir Haad for the drawings and to Anastasia Shapiro for preparing the map. Many thanks to Judith Bronstein and Smadar Gabrieli for reading the manuscript and commenting on it, and to Elisabeth Yehuda for her assistance.

[2] For a further discussion see Judith Bronstein, Edna J. Stern and Elisabeth Yehuda, "Franks, Locals and Sugar Cane: a Case Study of Cultural Interaction in the Latin Kingdom of Jerusalem," *Journal of Medieval History* 45/3 (2019), 316–330, esp. p. 316, 317, note 3.

[3] In this chapter I will look into ceramics through the prism of cross-cultural influences, an approach shared with two research groups in which I participated: The POMEDOR project (People, Pottery and Food in the Medieval Eastern Mediterranean; www.pomedor.mom.fr/), see: Edna J. Stern, Yona S. Waksman and Anastasia Shapiro, "The Impact of the Crusades on Ceramic Production and Use in the Southern Levant: Continuity or Change?" in *Multidisciplinary Approaches to Food and Foodways in the Medieval Eastern Mediterranean*, ed. Yona S. Waksman (forthcoming), and "Food and Food Habits in the Crusader Context, 1095–1291," funded by the Israel Science Foundation (Grant Number 1327/16), see: Bronstein, Stern and Yehuda, "Sugar Cane" and Judith Bronstein, Elisabeth Yehuda and Edna J. Stern, "Viticulture in the Latin Kingdom of Jerusalem in the Light of Historical and Archaeological Evidence," *Journal of Mediterranean Archaeology* 33/1 (2020), 55–78.

DOI: 10.4324/9781003146926-9

Pottery is the most abundant artifact type in archaeological assemblages due to their high breakage rate and resistance to decay. The materials required for pottery manufacture are easily available and cheap, and therefore pottery was commonly used by people from all levels of society. As a result, this mundane archaeological find became a valuable tool for research of the past. Ceramics are tangible evidence of everyday life and a straightforward documentation of their own life cycles. As such, they contain embedded messages that, once decoded, can provide complementary evidence to the textual sources. Therefore, studying the dynamics of pottery production, consumption, and distribution networks using archaeological and textual evidence offers new perspective for reconstructing and understanding life in the Latin East.

Adrian Boas's 1991 M.A. thesis, titled "A Provenience Study of some Fine Table-Wares Imported into the Latin Kingdom of Jerusalem", was one of the first attempts to conduct a broad, in-depth study of Crusader-period excavated ceramics, utilizing typology and archaeometry (chemical analysis and petrography). Although the focus was on imports, it also included some of the local productions known then.[4] Under the guidance of Profs. Benjamin Z. Kedar and Joseph Yellin of the Hebrew University of Jerusalem, Boas was the first Israeli student to specialize in Crusader archaeology, putting ceramic studies in the forefront.

A decade before, Denys Pringle set the foundations for modern ceramic research of the Latin Kingdom of Jerusalem. As he previously excavated and studied medieval sites in Italy,[5] Pringle employed excavation and ceramic research methodologies from the U.K. and Europe when he arrived at the British School of Archeology in Jerusalem. While extensively studying Crusader-period ceramics from previous excavations and from his own excavation at Burj al-Ahmar (*the Red Tower*),[6] Pringle was the first scholar to define Crusader-period pottery of the Kingdom of Jerusalem. He attempted to characterize it, to distinguish between local and imported types and to define proveniences. In an article from 1986, he suggested coastal redistribution of both local and imported ceramics in the eastern Mediterranean during the thirteenth century and proposed the use of archaeometric analyses to further understand connections between trade and pottery.[7] This challenge was almost immediately taken by Adrian Boas, in an article summarizing the main conclusions of his innovative M.A.[8] and subsequent publications.[9]

---

[4] Adrian J. Boas, *A Provenience Study of Some Fine Table-Wares Imported into the Latin Kingdom of Jerusalem*, Master's Thesis (Hebrew University of Jerusalem, 1991).

[5] Denys Pringle, "La ceramica dell'area sud del convent di S. Silvestro a Genova," *Archeologia Medievale* 4 (1977), 100–161.

[6] Denys Pringle, "Some More Proto-Maiolica from 'Athlit (Pilgrims' Castle) and a Discussion of Its Distribution in the Levant," *Levant* 14 (1982), 104–117; Denys Pringle, "Thirteenth-Century Pottery from the Monastery of St. Mary of Carmel," *Levant* 16 (1984), 91–111; Denys Pringle, "Medieval Pottery from Caesarea: The Crusader Period," *Levant* 17 (1985), 171–202; Denys Pringle, *The Red Tower (al Burj al-Ahmar) Settlement in the Plain of Sharon at the Time of the Crusaders and Mamluks (A.D. 1099–1516)*, British School of Archaeology in Jerusalem, Monograph Series I (London, 1986).

[7] Denys Pringle, "Pottery as Evidence of Trade in the Crusader States," in *I Comuni Italiani nel Regno Crociato di Gerusalemme*, eds. Gabriella Airaldi and Benjamin Z. Kedar (Genova, 1986), 451–475.

While Pringle and Boas set the foundations, the study of Crusader-period ceramics attracted increasing attention during the following three decades. Excavated and surveyed ceramic assemblages dating to the Frankish presence in the Latin East and Cyprus were published from a growing number of regions (Figure II.8.1).[10] These include the extensive study of almost 10,500 ceramic fragments and vessels that were exposed in the large-scale Israel Antiquities Authority excavations at various locations in Acre.[11]

The study of excavated Crusader-period ceramic assemblages focused at first on grouping and dating the ceramics (typology and chronology). Some attention was also given to identifying pottery workshops by using analytical methods, such as petrography and chemical analyses. The emerging picture of Latin East ceramic productions is of workshops with wide distribution and others on a regional scale.[12] In some regions, such as Acre and the Mediterranean coast, the ceramics have been comprehensively studied, while in others, especially the Crusader states to the north, further research is required. While the traded wares are better known, and are the subject of this chapter, characterizing the local wares with limited distribution necessitates more study. An example is the Syrian coast region, where ceramic wares collected in a large-scale survey indicate quite a few unknown small local workshops. Within this region, at Margat Castle, bowls and jugs of forms similar

---

[8] Adrian J. Boas, “The Import of Western Ceramics to the Latin Kingdom of Jerusalem,” *Israel Exploration Journal* 44 (1994), 102–122.

[9] E.g.: Adrian J. Boas, “Islamic and Crusader Pottery (c. 640–1265) from the Crusader City (Area TP/4),” in *Caesarea Papers*, eds. Kenneth G. Holum, Avner Raban and Joseph Patrich, JRA Supplement Series 35 (Portsmouth, RI, 1992), 2:165–166. Adrian J. Boas, “Late Ceramic Typology,” in *The Roman Baths of Hammat Gader: Final Report*, ed. Yizhar Hirschfeld (Jerusalem, 1997), 382–395. Adrian J. Boas, “Medieval and Post-Medieval Finds,” in *Ramat Hanadiv Excavations: Final Report of the 1984–1998 Seasons*, ed. Yizhar Hirschfeld (Jerusalem, 2000), 211–225. Raz Kletter and Adrian J. Boas, “Har Hozevim: A Frankish Farmhouse North of Jerusalem,” *‘Atiqot* 43 (2002), 185–205. Adrian J. Boas, “The Medieval Ceramics from Khirbat Ka‘kul,” *‘Atiqot* 54 (2006), 75–104. Adrian J. Boas, “Note on Some Medieval Period Ceramics Found in Area P,” in *Excavations at Tel Beth-Shean 1989–1996 I: From the Late Bronze Age IIB to the Medieval Period*, ed. Amihai Mazar, The Beth-Shean Valley Archaeological Project 1 (Jerusalem, 2006), 590–593.

[10] The main sites include: Caesarea, Apollonia/Arsur, Jaffa, Tiberias Beriut, Kinet, Tripoli Tel Arqa and Paphos, and see references in Edna J. Stern, *‘Akko I: The 1991–1998 Excavations; The Crusader-Period Pottery*, IAA Reports 51 (Jerusalem, 2012).

[11] These include unglazed plain wares and cooking vessels produced within the Kingdom of Jerusalem that will be mentioned here and a very wide variety of glazed table wares imported from various Mediterranean regions, some of them not previously identified in Crusader-period contexts in the Latin East. The imported wares were studied in my Ph.D. thesis, subsequently published in 2012, see: Stern, *Crusader-Period Pottery* (2 vols.).

[12] Stern, Waksman and Shapiro, “Ceramic Production,” and see references from previous studies therein.

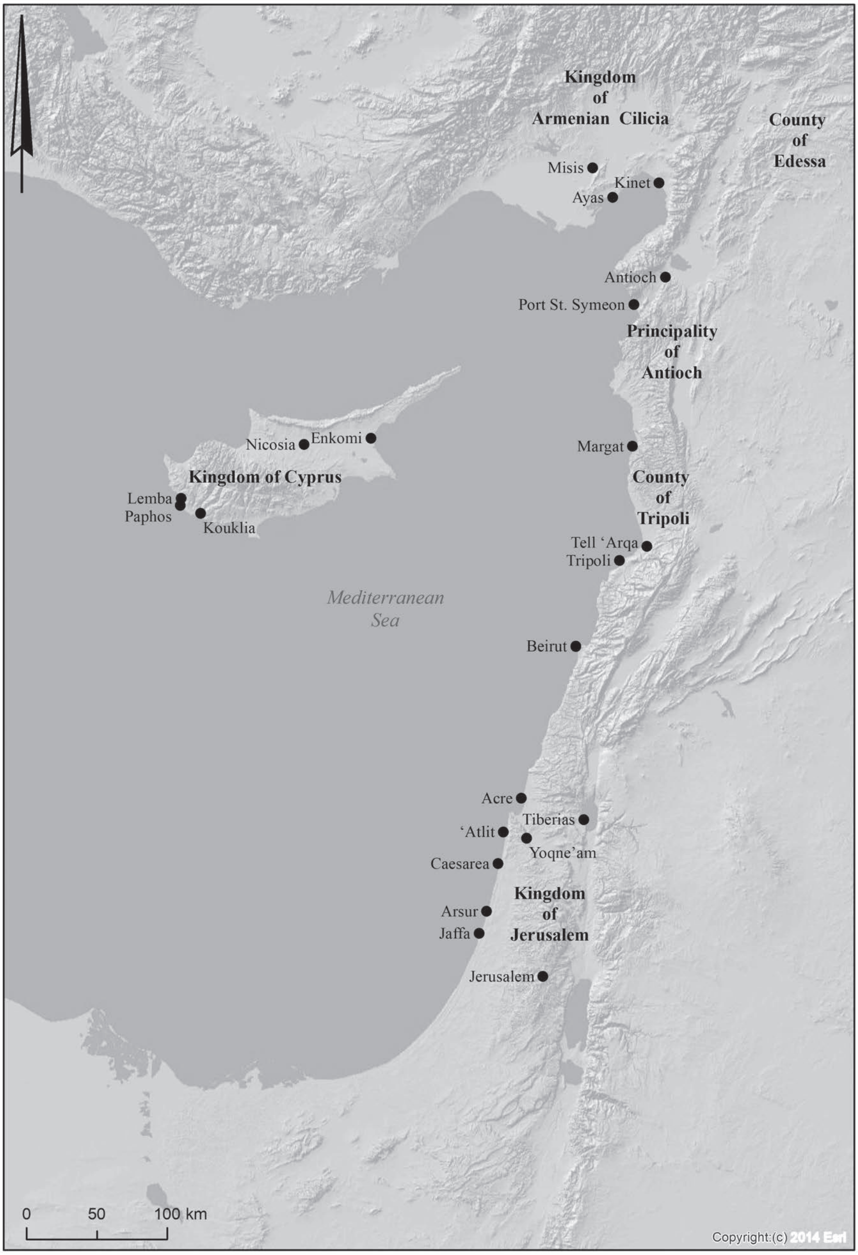

Kingdom of Armenian Cilicia
County of Edessa
Misis
Kinet
Ayas
Antioch
Port St. Symeon
Principality of Antioch
Nicosia
Enkomi
Kingdom of Cyprus
Lemba
Paphos
Kouklia
Margat
County of Tripoli
Tell 'Arqa
Tripoli
Mediterranean Sea
Beirut
Acre
Tiberias
'Atlit
Yoqne'am
Caesarea
Kingdom of Jerusalem
Arsur
Jaffa
Jerusalem
0
50
100 km
Copyright:(c) 2014 Esri

Figure II.8.1 Map of the Latin East with pottery production sites mentioned in the text (By Anastasia Shapiro). © IAA

to those produced in Acre but in a range of different fabrics (i.e. clay with added tempering materials) were preliminarily published.[13]

Food has a strong cultural significance. The Franks were exposed to new foodways upon their arrival to the East, as well as to the local ceramic vessels that were used to store, prepare, cook and serve this food.[14] The ceramic assemblages that follow the First Crusade show no clear-cut change in the types of pottery that were used. Some workshops manufactured the same types of wares uninterruptedly regardless of Frankish occupation. Change began from the mid-twelfth century, mainly with the importation of glazed bowls from the Aegean region. In the following years, until the fall of the Latin East, most of the ceramic wares were used in different ethno-politic regions, as pottery moved between Syrian and Frankish territories, despite wars and conflicts.[15] Examining the ceramics through the prism of culture, underlines the necessity to be cautious with the nomenclature: "Crusader-period pottery" should be the term used and not "Crusader pottery". In addition, the precise date of the pottery (e.g. twelfth century) should be stated when possible.[16]

The development in research of Crusader-period ceramics in the Latin Kingdom of Jerusalem coincided with that of Islamic pottery, Miriam Avisssar's work at Yoqne'am being one of the first examples.[17] As research progressed, some of the ceramics were subject to archaeometric studies, including chemical and petrographic analyses, to trace pottery provenance.[18] It became apparent that the data that was collected from ceramic studies could be used to study various aspects of society, from food and foodways,[19] through ceramics and cultural identity,[20] to transculturation[21] and economical questions.[22] This demonstrates that the study of the numerous small ceramic fragments found in the soil of archeological excavations can be beneficial for studying larger issues.

---

[13] Baláz Major, *Medieval Rural Settlements in the Syrian Coastal Region (12th and 13th Centuries)*, Archaeolingua Central European archaeological heritage series 9 (Oxford, 2016), 16–28, 141, 142; Nóra Buránszki, "A Thirteenth-Century Pottery Assemblage from Margat Castle," in *Bridge of Civilizations: The Near East and Europe c. 1100–1300*, eds. Peter Edbury, Denys Pringle and Baláz Major (Oxford, 2019), 260–271, see pp. 267–269.

[14] Bronstein, Stern and Yehuda, "Sugar Cane," 318, 319; Stern, Waksman and Shapiro, "Ceramic Production"; Lisa Yehuda, "Cooking and Food in the Latin Kingdom of Jerusalem," in *The Last Supper at Apollonia: The Final Days of the Crusader Castle in Herzliya*, eds. Irit Ziffer and Oren Tal (Tel Aviv, 2011), 52–61. For a discussion on kitchens, dining spaces and food in the Latin Kingdom, see also Adrian J. Boas, *Domestic Settings. Sources on Domestic Architecture and Day-to-Day Activities in the Crusader States* (Leiden, 2010), 123–159.

[15] Edna J. Stern, "Continuity and Change: A Survey of Medieval Ceramic Assemblages from Northern Israel," in *Actas del VIII congreso internacional de cerámica medieval en el mediterraneo* 1, eds. Juan Zozaya Stabel-Hansen, Manuel Retuerce Velasco, Miguel Ángel Hervás Herrera and Antonio de Juan García (Ciudad Real, 2009), 225–234.

[16] See a short discussion on this in Scott Redford, "Port Saint Symeon Ceramics and Cyprus," in *Cypriot Medieval Ceramics: Reconsiderations and New Perspectives*, eds. Demetra Papanikola-Bakirtzi and Nicholas Coureas (Nicosia, 2014), 125–151.

[17] Miriam Avissar, "The Medieval Pottery," in *Yoqne'am*: *The Late Periods*, eds. Amnon Ben-Tor, Miriam Avissar and Yuval Portugali, Qedem Reports 3 (Jerusalem, 1996), 75–172. See also: Miriam Avissar and Edna J. Stern, *Pottery of the Crusader and Mamluk Periods in Israel*, IAA Reports 26 (Jerusalem, 2005); Yael D. Arnon, *Caesarea Maritima, the Late Periods (700–1291)*, BAR International Series S1171 (Oxford, 2008); David Stacey, *Excavations at Tiberias, 1973–1974: The Early Islamic Periods*, IAA Reports 21 (Jerusalem, 2004); Katia Cytryn-Silverman, "The Ceramic Evidence," in *Ramla. Final Report on the Excavations North of the White Mosque*, ed. Oren Gutfeld, Qedem 51 (Jerusalem, 2010), 97–211.

Wares and workshops

Ceramic assemblages comprise various forms of vessels, the majority utilized for food preparation, storage and dining. The basic forms: cooking pots, jars, jugs and bowls, to name a few, can be made of different fabrics,[23] according to the available geological materials within the production region as well as the local ceramic traditions. Vessels were manufactured either by hand, using coils or slabs of clay and were occasionally finished on a tournette, on the potter's wheel or using a mould. Different decoration techniques, mainly slip painting, glaze painting and sgrafitto (incised decoration), could be applied to some of the vessels, as well as glaze or paint, while others were left bare. When ceramic vessels share distinctive features, including fabric, forms and decoration (i.e. were made in a single ceramic tradition) they may be considered as a single ware. This ware may have been produced in a single pottery workshop or in a cluster of workshops within the same geographical region.

---

[18] Stern, Waksman and Shapiro, "Ceramic Production," and see references for previous studies therein. In addition: R. Smadar Gabrieli, David Ben-Shlomo and Bethany J. Walker, "Production and Distribution of Geometric-Painted (HMGP) and Plain Hand-Made Wares of the Mamluk Period: A Case Study from Northern Israel, Jerusalem and Tell Hisban," *Journal of Islamic Archaeology* 1/2 (2014), 193–229.

[19] Two edited volumes contain much information on the topic, and see references to earlier studies therein: Joanita Vroom, Yona Waksman and Roos Van Oosten, eds., *Medieval Masterchef. Archaeological and Historical Perspectives on Eastern Cuisine and Western Foodways* (Turnhout, 2017); and Yona S. Waksman, ed., *Multidisciplinary Approaches to Food and Foodways in the Medieval Eastern Mediterranean* (Lyon, forthcoming).

[20] Joanita Vroom, "The Morea and its Links with Southern Italy after *AD* 1204: Ceramics and Identity," *Archeologia Medievale* 38 (2011), 409–430; Edna J. Stern, "Pottery and Identity in the Latin Kingdom of Jerusalem: A Case Study of Acre and Western Galilee," in *Medieval and Post-Medieval Ceramics in the Eastern Mediterranean: Fact and Fiction, Proceedings of the First International Conference on Byzantine and Ottoman Archaeology*, ed. Joanita Vroom (Turnhout, 2015), 287–315.

[21] Eva R. Hoffman and Scott Redford, "Transculturation in the Eastern Mediterranean," in *A Companion to Islamic Art and Architecture*, eds. Finbarr Barry Flood and Gülru Necipoğlu (Hoboken, NJ, 2017), 40530.

[22] Scott Redford, "Trade and Economy in Antioch and Cilicia in the 12th–13th Centuries," in *Trade and Markets in Byzantium*, ed. Cécile Morrisson, Dumbarton Oaks Byzantine Symposia and Colloquia 4 (Washington, DC, 2012), 295–307.

[23] The Levantine Ceramic Project has an extensive glossary explaining the basic ceramic terms used here: www.levantineceramics.org/glossary. In addition, it is possible to consult it for some of the types of pottery that will be mentioned here.

Ceramic assemblages, which are a composition of the different ceramics used by a group of people, contain both local and imported wares. Ceramic assemblages are not homogenous, and they seem to vary not only between geographical regions but also between cultural-ethnic environments in the same region. The variation is for the most part due to the different local wares produced and used in each region, but assemblages can also vary in the presence or absence of imports and in the relative quantities of the different imports. However, there are three wares that were widely distributed and can be found in most if not all the sites in the Latin East and Cyprus. These are the glazed table wares from Paphos-Lemba in Cyprus, from the Principality of Antioch and the Kingdom of Armenian Cilicia (known as "Port St. Symeon wares") and the cooking vessels from Beirut.

In the following, the known production centers shall be briefly described.

Paphos-Lemba

This production began in the thirteenth century, apparently shortly after the establishment of the Latin Kingdom of Cyprus and its annexation to the Latin States of the mainland. Glazed tableware of five different colorful decorative schemes, mainly bowls and plates, were produced in a cluster of workshops (Figure II.8.2:1–4).

Some of the workshops were identified by archaeological evidence of kiln wasters and tripod stilts in the town of Paphos, and the villages of Lemba and Kouklia.[24] The tripod stilts, which are a device placed between glazed bowls in the kiln to prevent them from sticking to each other when the glaze liquidizes during firing,[25] where a novelty in Cyprus, as was the production of glazed ware (Figure II.8.2:5, 6). Analysis of the fabric and the glaze of this ware has shown that the well-levigated and well-fired fabric was indeed produced in southwestern Cyprus and that the glaze was prepared by potters who apparently had previous technical knowledge and used the same recipe as the Byzantine and Islamic potters of the eastern Mediterranean.[26] The use of tripod stilts facilitated and increased the

---

[24] Demetra Papanikola-Bakirtzi, "Cypriot Medieval Ceramics: An Overview," in *Cypriot Medieval Ceramics: Reconsiderations and New Perspectives*, eds. Demetra Papanikola-Bakirtzi and Nicholas Coureas (Nicosia, 2014), 17–26, see pp. 21, 22, and further references therein.

[25] Tripod stilts were in use in the Islamic world during the tenth and eleventh centuries. See, for example, in Acre: Edna J. Stern, "Evidence of Early Islamic Pottery Production in Acre," '*Atiqot* 35 (1998), 23–25. For tripod stiles found at Lemba see Marie-Louise von Wartburg, "Lemba Ware Reconsidered," *Report of the Department of Antiquities, Cyprus* 1997, 323–340, see p. 324, Figure 1, Pls. LXIV, LXV.

[26] Boas, Western Ceramics, 118; S. Y. Waksman, "Archaeometric Approaches to Ceramics Production and Imports in Medieval Cyprus," in *Cypriot Medieval Ceramics: Reconsiderations and New Perspectives*, eds. Demetra Papanikola-Bakirtzi and Nicholas Coureas (Nicosia, 2014), 257–277, see pp. 263–276, Figure 11; Carmen Ting, Athanasios K. Vionis, Thilo Rehren, Vasiliki

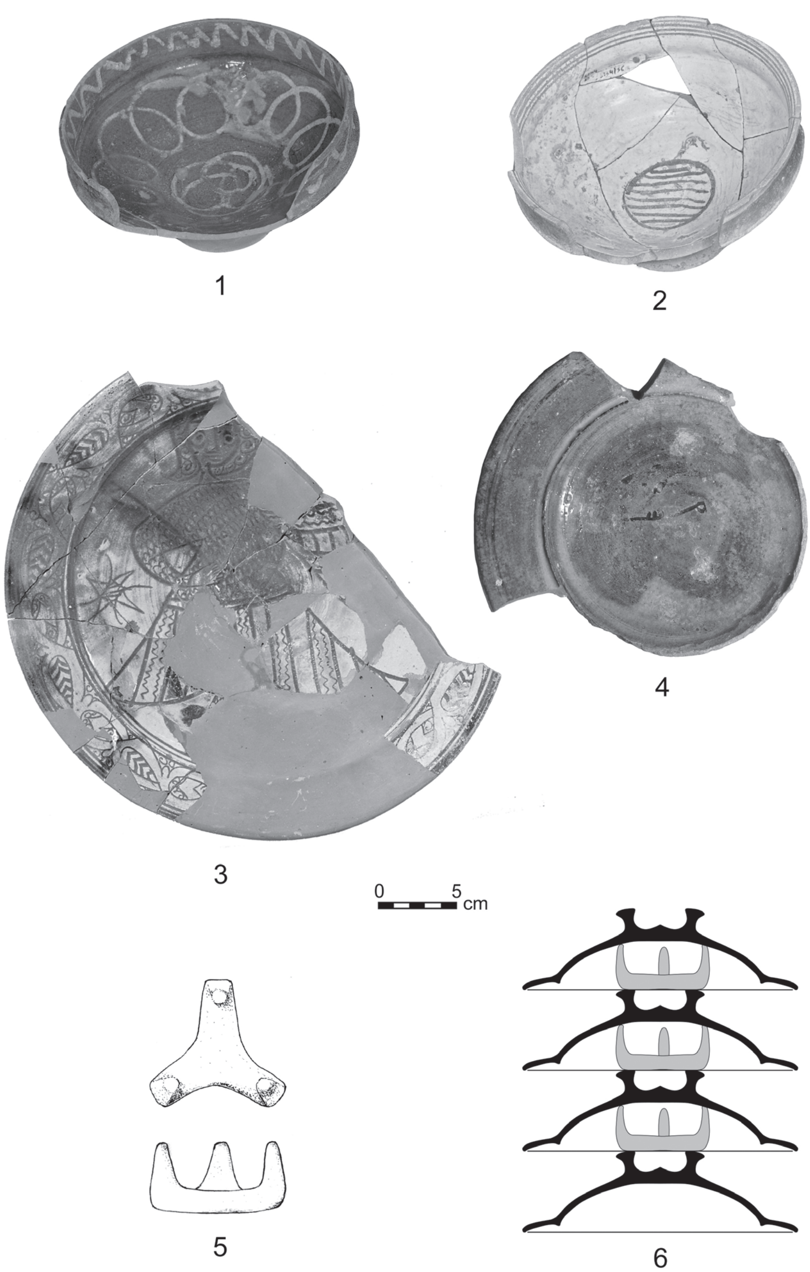


Figure II.8.2 Paphos Lemba Ware found in Acre (1–4). Tripod stilts and reconstruction of use (5, 6). Photos by Clara Amit (1–3) and Howard Smithline (4). Drawings by Sapir Haad. © IAA

output of each firing in the kiln and enabled mass production. The Paphos-Lemba workshops sent most of their produce as export to the Latin kingdoms and the principalities in the Levant, as can be seen from the abundance of these colorful, attractive vessels there, in larger numbers than on the island. The distribution in Cyprus was rather limited to the southwestern part of the island and Paphos-Lemba ware was rarely found in Nicosia and the Troodos Mountains.[27] The majority of the exported vessels consist of the open forms, bowls and plates that could easily be packed to form condense and heavy cargo. The favorable position of Paphos on the maritime route from Europe to the Levant seems to be one of the reasons for this distribution.

The Principality of Antioch/the Kingdom of Armenian Cilicia

Similarly to the Paphos-Lemba ware, ceramics produced in a wide geographical region, and known as "Port St. Symeon ware" (often called al-Mina ware), include a rather limited range of glazed tableware, mainly bowls and plates, produced during the thirteenth century. The main decoration, consisting of incisions and the addition of green and yellow/brown colorful glaze, has a rather large repertoire of motifs, including geometric, vegetal, and human and zoomorphic depictions (Figure II.8.3:1–4).[28] The potters producing these bowls also used tripod stilts to separate the vessels and thus to enlarge production volumes. Kiln bars (ceramic rods) were another device that allowed stacking larger quantities in the kiln and served as spacers. They were inserted in the walls to produce shelves on which the vessels were placed (Figure II.8.3:5,6).[29] Chemical and petrographic analyses have shown multiple production regions, some in the region of Antioch.[30] Port St. Symeon is the Latin name of al-Mina (the port of Antioch), where this ware was first found

---

Kassianidou, Holly Cook and Craig Barker, "The Beginning of Glazed Ware Production in Late Medieval Cyprus," *Journal of Archaeological Science: Reports* 27 (2019), [open access], 101963 https://doi.org/10.1016/j.jasrep.2019.101963, 8, see additional references therein.

[27] Stern, *Crusader-Period Pottery*, 63, 64; Edna J. Stern, "The Paphos Glazed Wares: Distribution and Consumption in the Latin Kingdom of Jerusalem," in *Cypriot Medieval Ceramics: Reconsiderations and New Perspectives*, eds. Demetra Papanikola-Bakirtzi and Nicholas Coureas (Nicosia, 2014), 61–76. Ting et al., "Glazed Ware Cyprus," 8–11.

[28] Stern, *Crusader-Period Pottery*, 55–58, and see further references therein.

[29] Like the tripod stilts, kiln bars were also in use in the Islamic world during the tenth and eleventh centuries, and in the Levant. See, for example, in Tiberias: Edna J. Stern, "Tiberias, Aviv Hotel: Domestic and Industrial Pottery from the Abbasid and Crusader Periods," *'Atiqot* 92 (2018), 193–216. M. James Blackman and Scott Redford, "Neutron Activation Analysis of Medieval Ceramics from Kinet, Turkey, especially Port Saint Symeon Ware," *Ancient Near Eastern Studies* 42 (2005), 83–186, see pp. 93, 94, Fig 51; Stern, Waksman and Shapiro, "Ceramic Production," see references therein.

[30] Boas, *Provenience Study*, 208–210; Blackman and Redford, "Ceramics from Kinet,"; Anastasia Shapiro, "Petrographic Analysis of Crusader-Period Pottery from the Old City of Acre," in Edna J. Stern, *'Akko I. The 1991–1998 Excavations. The Crusader Period Pottery*, IAA Reports 51, 2 vols. (Jerusalem, 2012), 103–126, see pp. 115, 116.

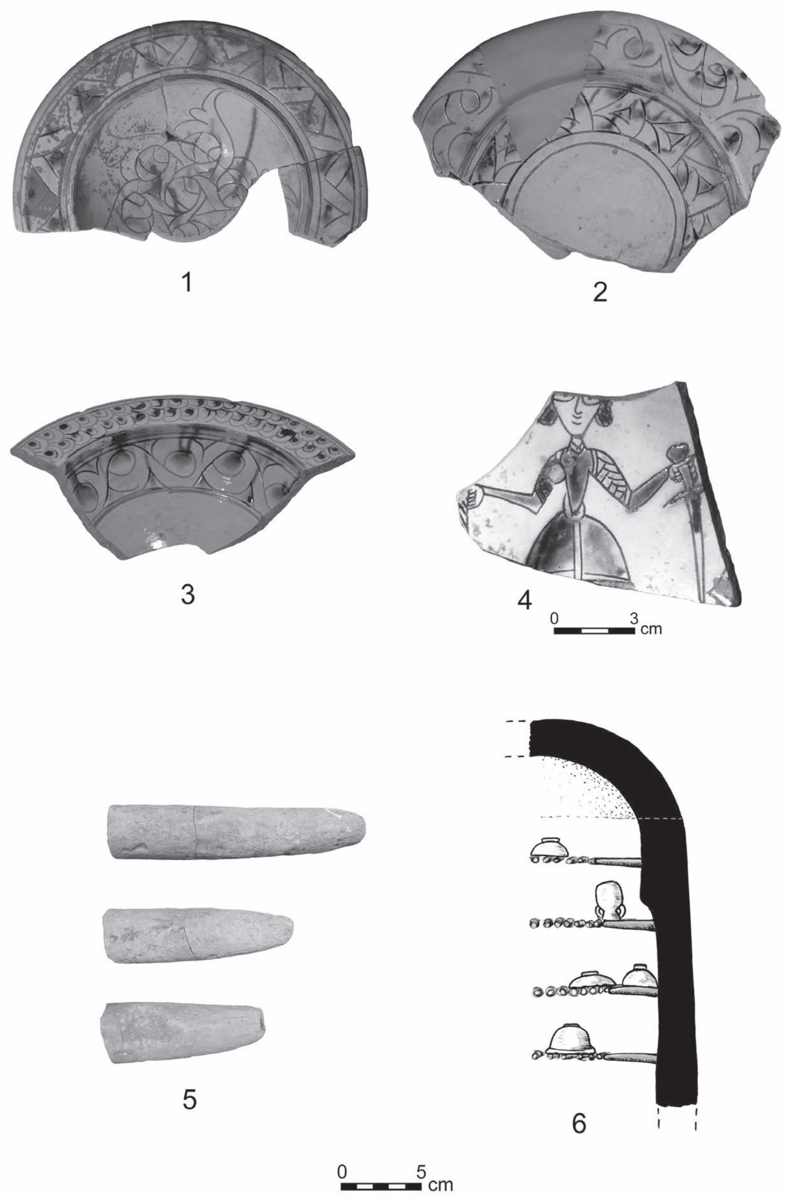


Figure II.8.3 Port St. Symeon Ware found in Acre (1–4). Kiln bars (5) and reconstruction of use (6). Photo by Howard Smithline (1–3), Danny Syon (4) and Yona Waksman (5). Drawing by Sapir Haad. © IAA

in large quantities, including kiln wasters, and thus its name. Pringle suggested in the 1980s that it is "the Crusader pottery *par excellence*" due to its wide distribution in the Latin East.[31] Since then, archaeological indications of production have been identified at several sites in the Principality of Antioch and in the neighboring Kingdom of Armenian Cilicia near or on the sea, at Antioch, Kinet, Sardis, Misis and Epiphaneia. In addition, new evidence indicates that there was a continuation of pre-Crusader local production prior to the thirteenth century, that production continued after the fall of the principality in 1268 and that production existed outside the Principality of Antioch.[32] This new evidence questions its true Crusader affiliation. The iconography as well as the diverse style of the designs depicted on these colorful vessels also indicate multicultural influences and sources.[33] It appears that in the thirteenth century this local decorated glazed ware, that existed before and after Frankish presence in the East, experienced an episode in which it developed multicultural motifs and themes. Its production in a cluster of ceramic workshops in both the kingdom of Armenian Cilicia and the Principality of Antioch was targeted for maritime distribution, and it had a large consumers' market throughout the Latin East. The pottery of this phase was named "Port St. Symeon Ware", and it is indeed a very complex ware.

Beirut

The ceramic types manufactured at Beirut during the twelfth and thirteenth centuries were diverse and included unglazed kitchen ware, glazed cooking vessels, kitchen and table ware (Figure II.8.4). Most were made of the same red clay originating from a ferruginous sequence of the Lower Cretaceous formations outcropping to the east of Beirut. The tempering material, however, varied for the different functional vessels. Archaeological excavations at Beirut exposed kilns utilizing kiln bars, in various locations in the city.[34] This and other archaeological indications suggest extensive production at Beirut, apparently in a cluster of workshops. Chemical and petrographic analyses have shown that production continued at least from

---

[31] Pringle, "Pottery as Evidence," 458, and see further references therein.

[32] Blackman and Redford, Ceramics from Kinet, 92–96; Stern, *Crusader-Period Pottery*, 57, 58, and see further references therein.

[33] For further discussion see Scott Redford, "On Saqis and Ceramics: Systems of Representation in the Northeast Mediterranean," in *France and the Holy Land: Frankish Culture at the End of the Crusades*, eds. Daniel H. Weiss and Lisa Mahoney (Baltimore, 2004), 253–312; Tasha Vorderstrasse, "The Iconography of the Wine Drinker in 'Port St. Symeon' Ware from the Crusader Era," *Eastern Christian Art* 2 (2005), 59–72; Redford, "Port Saint Symeon," 132–141; Hoffman and Redford, "Transculturation".

[34] Véronique François, Andreas Nicolaïdes, Lucy Vallauri and Sylvie Yona Waksman, "Premiers éléments pour une caractérisation des productions de céramique de Beyrouth entre domination Franque et Mamelouke," in *VIIe Congrès International sur la Céramique Médiévale en Méditerranée. Thessaloniki 11–16 Octobre 1999*, ed. Charalambos Bakirtzis (Athens, 2003), 325–340, see pp. 326, 327, Figures 1, 2.

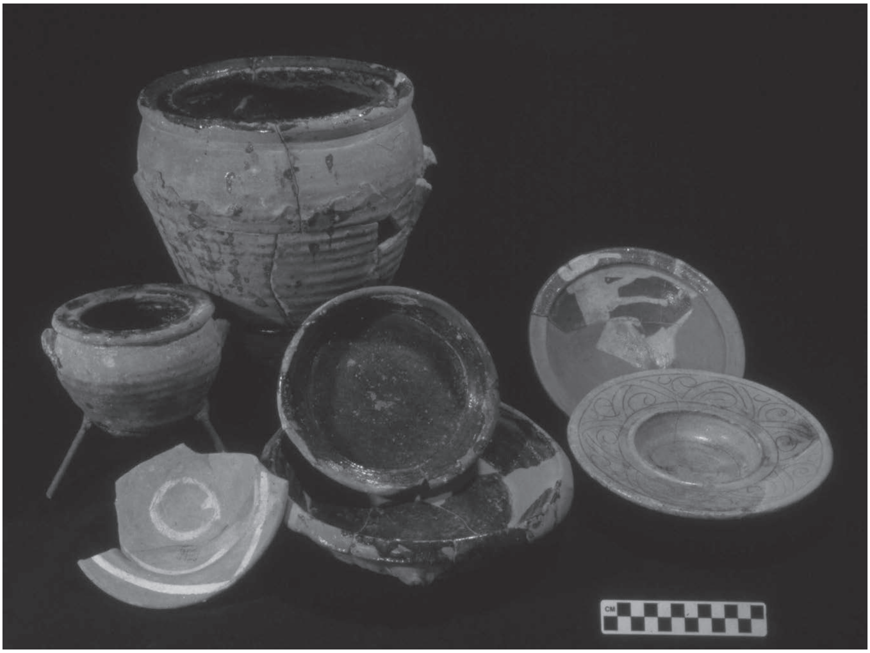


Figure II.8.4 Beirut Ware found in Acre. Photo by Howard Smithline. © IAA

the Fatimid period and that its products were widely distributed by sea and land, within the Latin East and to Cyprus.[35] The Beirut workshops-cluster produced and exported table wares but seemed to specialize in cooking vessels, as they dominated the market, at least in the Kingdom of Jerusalem.[36] Cooking vessels must be made from raw materials that can meet the high stresses of heating and cooling cycles during use. The suitable local raw materials and the location in the prospering port city of Beirut, seem to have been the reasons for their wide maritime distribution.

Wares from several other production centers will be reviewed in the following. They represent wares that were distinguished by morphological typology and further investigated by petrographic and chemical analyses. Locating the sources of the clay and tempering materials made it possible to suggest locations for the workshops.

---

[35] Shapiro, "Petrographic Analysis,"; Ruth Smadar Gabrieli, Sylvie Yona Waksman and Anastasia Shapiro, "Archaeological and Archaeometric Investigations of Cooking Wares in Frankish and Venetian Cyprus," in *Multidisciplinary Approaches to Food and Foodways in the Medieval Eastern Mediterranean* (Proceedings of the POMEDOR final conference, Lyon 19–21 May, 2016), ed. Yona S. Waksman (forthcoming); Stern, Waksman and Shapiro, "Ceramic Production". For distribution see Stern, *Crusader-Period Pottery*, 43, 46, 47, and see references therein.

[36] For example, quantification of the pottery in Acre has shown that of a total of 3,454 cooking-ware rims, 3,279 (95%) are from Beirut, while only 175 (5%) correspond to other, imported types of cooking wares, Stern, *Crusader-Period Pottery*, 29, tables 3.5, 3.6.

Acre

Simple, unglazed wheel-made ware, named "Acre Ware", in a range of forms, including highly standardized mass-produced "Acre bowls" (Figure II.8.5) and various forms of jugs in a Western (Figure II.8.5, back row, center and left) or in Eastern drinking-vessels tradition (Figure II.8.6:1). All the vessels have a light-colored exterior, apparently due to dipping them in salty seawater prior to firing. The result is greater resistance to breakage and a less porous surface, almost like a glaze, upgrading this simple pottery. It was defined by chemical and petrographic analyses, which also identified slight differences of raw materials, implying that the same range of forms were produced both to the south and to the north of Acre. This seems to indicate a cluster of workshops manufacturing the same ware. The vessels were very simple; however, their hardiness, in addition to the maritime location of Acre, resulted in their regional trade. Acre Ware found farther down the coast at Apollonia/Arsur and Jaffa, and inland at Tiberias demonstrate their sea and land distribution.[37]

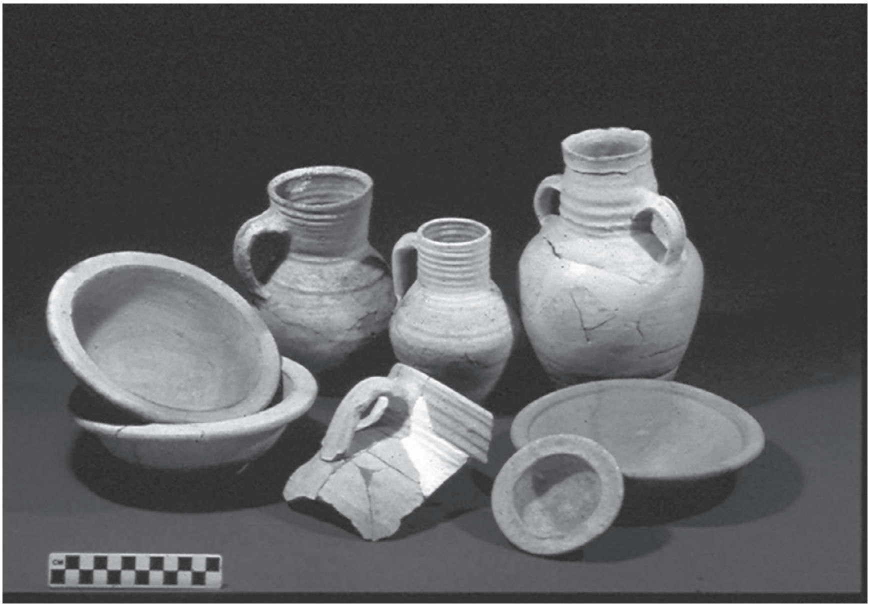


Figure II.8.5 Acre Ware found in Acre. Photo by Howard Smithline. © IAA

---

[37] Stern, *Crusader-Period Pottery*, 34–38; Shapiro, "Petrographic Analysis," 104, 105, 114, 115; Stern, Waksman and Shapiro, "Ceramic Production," see references therein.

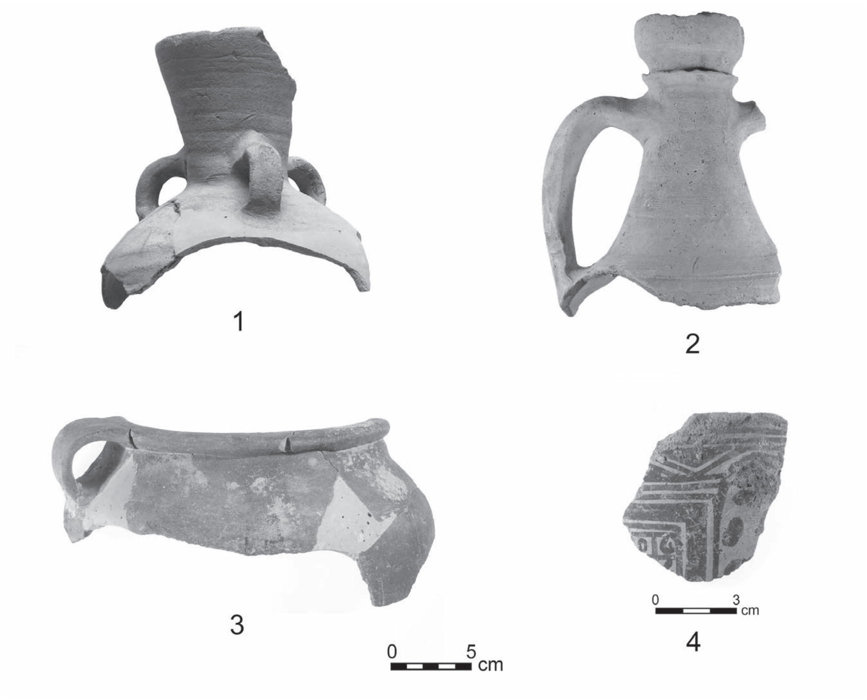


Figure II.8.6 Acre Ware jug in Eastern style (1), a small table amphora (2), Cypriot handmade cooking pot (3), Levantine HMGP (4). Photos by Yona Waksman (1), Howard Smithline (2, 3) Clara Amit (4). © IAA

Cyprus and the Levant: handmade ware industries

Handmade wares are usually considered to be primitive to the wheel-made ceramics, because they were produced before the invention of the potter's wheel that enabled mass production. However, this manufacturing technique made a comeback during a period in which most of the ceramic vessels were wheel made. Research revealed that contrary to accepted opinion, the handmade wares in Cyprus and at the mainland under Frankish dominion were part of specialized industries. Similarities between these two industries are that they both continued with little development or change in the centuries following Crusader rule, that they were used by both the local and Frankish population and that no kiln or workshop were found. Their production regions are suggested merely according to analytical results.[38] The manufacture technique, as well as forms and decorations, were different in the Levant and Cyprus, as were their distribution patterns. Whilst the Levantine ones seem to have been distributed only regionally, some types of the Cypriot handmade ware were exported to the Kingdom of Jerusalem.[39]

---

[38] Gabrieli et al., "Hand-Made Wares"; Ruth Smadar Gabrieli, "Specialisation and Development in the Handmade Pottery Industries of Cyprus and the Levant," in *Medieval and Post-Medieval*

The Levantine production consists of three different wares that coexisted: plain handmade ware, which consisted of simple kitchen and storage vessels; handmade geometric painted ware for dining and storage (known as HMGP; Figure II.8.6:4); and cooking pots. These wares show various degrees of craft specialization, each had multiple production centers throughout the region and different regional and interregional distribution patterns.[40]

Handmade wares, finished on a slow wheel, were produced in Cyprus from the seventh century onward, by the twelfth century a strong tradition of specialized craftmanship had developed and the forms were rather standardized. They include cooking vessels (Figure II.8.6:3), jugs and jars. All forms were made of the same composition of raw materials, allowing a multi-function of jugs for cooking. Archaeometry shows composition that can be traced to formations of the Troodos Mountains, but the number of production areas remains unclear. Handmade pottery remained in production in Cyprus until modern times.[41]

Other less-known workshops

Some vaguely known, additional production centers existed in the Latin East, and some are yet to be discovered. Examples of several will be briefly reviewed here.

Southern Levant

A few glazed baking dishes excavated at Paphos showed chemical composition different from that of Beirut, indicating a cooking ware workshop whose provenance is yet to be determined.[42] Petrography showed that a small table amphora (Figure II.8.6:2) and other forms found at Acre, made of a fabric and with surface

---

Ceramics in the Eastern Mediterranean: Fact and Fiction, ed. Joanita Vroom (Turnhout, 2015), 131–153; Gabrieli, Waksman and Shapiro, "Cooking Wares".

[39] For distribution of both types see citations in note xxxvii and in Stern, *Crusader-Period Pottery*, for Cypriot types see pp. 58–60, for Levantine types see pp. 49, 50.

[40] Gabrieli, et al., "Hand-Made Wares".

[41] Ruth Smadar Gabrieli, "Shades of Brown: Regional Differentiation in the Coarse Ware of Medieval Cyprus," in *Cypriot Medieval Ceramics: Reconsiderations and New Perspectives*, eds. Demetra Papanikola-Bakirtzi and Nicholas Coureas (Nicosia, 2014), 191–212; Gabrieli, Specialisation and Development; Ruth Smadar Gabrieli, Sylvie Yona Waksman, Anastasia Shapiro and Alessandra Pecci, "Cypriot and Levantine Cooking Wares in Frankish Cyprus," in *Medieval Masterchef. Archaeological and Historical Perspectives on Eastern Cuisine and Western Foodways*, eds. Joanita Vroom, Yona Waksman and Roos Van Oosten (Turnhout, 2017), 119–144; Gabrieli, Waksman and Shapiro, "Cooking Wares".

[42] Gabrieli et al., "Cypriot and Levantine," 123, 124; Gabrieli, Waksman and Shapiro, "Cooking Wares".

finish similar to the Acre Ware were not produced locally, but on the northern Lebanese coast.[43] Their distribution is evident by similar amphorae that were reported at various sites in the Latin Kingdom as well as at Anfeh (Lebanon), Margat Castle (Qalʿat al-Marqab, Syria) and Kinet.[44] Archaeometric analyses also showed that storage jars excavated at Tiberias, similar both in form and light surface color to those produced in Acre, were made of a different calcareous, buff-firing clay local to Tiberias.[45]

Lebanese and Syrian coast

Jars and jugs similar to Acre Ware were also reported from Tel ʻArqa in Lebanon and from Margat Castle.[46] It is possible that they were produced at yet another production center or imported from Acre, but this cannot be determined at this stage as their fabric was not analyzed.

At Margat Castle simple bowls and some jugs were made of a reddish brown or orange sandy fabric that was well fired. Some of the bowls, named there "soup bowls", have a mark painted in white slip on the rim. The bowls are similar in form and size to the Acre bowls. Their association with the Hospitallers, like at Acre and at Arsur, suggests that they were utilized in a similar way at the Hospitaller Margat Castle.[47] Analysis of the fabric could determine if they were locally produced. Whether the bowls were produced in a workshop that was situated at or near Margat Castle, or brought from a distance, they clearly indicate yet another production center, situated on the Syrian coast in the county of Tripoli or the Principality of Antioch.

Cyprus

At Nicosia and Enkomi two additional workshops produced pottery in different fabrics, in some cases with similar forms. These wares were not distributed to the south-western region of the island, and as far as is known today also not to the Latin East.[48]

---

[43] Stern, *Crusader-Period Pottery*, 38–40, Figure 4.4, Pl. 4.12:2–7; Shapiro, "Petrographic Analysis," 106, 115.

[44] For references see Stern, *Crusader-Period Pottery*, 39; Grace Homsy-Gottwalles, "The Medieval and Ottoman Periods at Saydet el-Rih, Anfeh (Lebanon): Ceramic Evidence," *Berytus: Archaeological Studies* 56 (2016), 313–349, see pp. 329, Figure 9; Buránszki, "Margat Castle," 267.

[45] Edna J. Stern, "Crusader, Ayyubid and Mamluk-Period Remains from Tiberias," ʻ*Atiqot* 76 (2013), 183–208, see p. 190, Figure 12: 1, 2; Anastasia Shapiro, "Petrographic Examination of Medieval Pottery from Tiberias," *ʻAtiqot* 76 (2013), 209–212, see pp. 210–211; Stern, Waksman and Shapiro, "Ceramic Production".

[46] Suzy Hakimian and Hassan Salamé-Sarkis, "Céramiques médiévales trouvées dans une citerne à Tell ʻArqa," *Syria* 65 (1988), 1–52, Figures 11:9; 13:1–3, Pl. VII:2:1, 2; Buránszki, "Margat Castle," 267.

[47] Buránszki, "Margat Castle," 267–270, Figures 18.5, 18.6.

[48] Véronique François, "Poteries des fosses dépotoirs du site de l'Archiepiskopi à Nicosie (fin XIIe-XIVe siècles): les vestiges d'une production locale sous les Lusignan," *Bulletin de correspondence hellénique* 141 (2017), 821–895, and see references therein.

Discussion

The main ceramic workshops, as well as some lesser-known ones, active during the 200 years of Frankish presence in the East were surveyed earlier. These workshops, identified by archaeological finds and archaeometry, produced a wide range of simple kitchen or table ware and cooking vessels, or decorated colorful table wares, either handmade or wheel made. They met the needs of both the local populations and the Frankish newcomers.[49]

The sea and land distribution patterns of the ceramics that were manufactured in these workshops, as well as their use by the people of different cultural backgrounds living in the Latin East, will only be shortly mentioned here, mainly when relevant to the discussion of the production centers, although they are topics that deserve in-depth studies.

Information that can be gleaned from recent studies of the ceramic production centers in the Latin East and that will be discussed here include organization, continuity and change, the cultural identity of the potters and specialized production for export in the Latin East and Cyprus. Finally, sugar-cane production in the Latin East will be briefly reviewed as a comparison to pottery production.

Organization of production centers

The main well-known production centers were organized in clusters of workshops manufacturing a similar repertoire of wares in a single geographic region. These clusters, in Paphos-Lemba, Antioch/Cilicia, Beirut and perhaps Acre, were situated on the seacoast or very close to it, facilitating distribution by sea. The workshops cluster in the Principality of Antioch and the Kingdom of Armenian Cilicia is exceptional, as it produced a distinct ware while operating from two different ethnopolitical entities. The organization of handmade production centers in the Kingdom of Jerusalem and Cyprus is yet to be better understood. At this point it is unclear how they were organized; however, it appears that the workshops were dispersed over the region. In both occurrences the coexistence of two separate handmade and wheel-made traditions is noteworthy.

Continuity and change

As most of the ceramic wares in use during the Fatimid period were consumed uninterruptedly regardless of the Frankish annexation of the Latin East,[50] it is not surprising that some ceramic workshops continued their production. While some of these enhanced existing production, others emerged under Crusader rule. Those that had uninterrupted production – Beirut, the Principality of Antioch/Kingdom of Armenian Cilicia and perhaps the handmade wares in Cyprus – experienced some change in the nature of the ceramics and in the volume of production. It remains unclear if handmade ware in the Levant and the Acre production began before or after the arrival of the Franks, but undoubtedly glazed table ware production in Cyprus began only after the island became Frankish.

---

[49] For their relative quantities of the ceramic wares found at Acre see Stern, *Crusader-Period Pottery*, 24–31.

[50] Stern, "Continuity and Change," 227, 228.

At Beirut, the shape and glaze of the cooking and table wares vessels did not change considerably during the transition between the Fatimid and Crusader regimes, despite the change in rule and in population. This coincides with the textual sources that indicate that the previous inhabitants continued to reside at Beirut after the Frankish conquest in 1110.[51]

The Antiochian and Cilician ceramic workshops apparently produced glazed bowls with incisions and the addition of green and yellow/brown glaze similar to the Port St. Symeon ware, before the arrival of the Franks, but it seems that in the thirteenth century the repertoire of the motifs and themes on the bowls changed, as some of them began to cater to Frankish taste (as, for example, the knight in Western-style armor shown in Figure II.8.3:4) at the same time as the volume of their production increased, and perhaps also the number of workshops. This seems to have been stimulated by the arrival of the Franks. Production of these workshops also continued into the fourteenth century. Manufacture of handmade wares began in the Levant from the twelfth century, coinciding more or less with the arrival of the Franks. The increase in production seems to be linked to the growing market. More information on the workshops producing these wares in the Levant is required to determine whether there was continuity from the pre-Frankish phase or if this production was stimulated by the changes that followed the arrival of the Franks. In either case the increase in production may also indicate increase in the number of production centers. In this sense handmade production is comparable to the ceramic workshops in the region of Antioch and Cilicia, and similar to them, the handmade workshops continued production after the fall of the Latin East.

In Beirut, most of the previous inhabitants continued to reside in the city, a situation that explains the continuation of production by the local potters. On the other hand, it remains unclear if the Crusader-period Acre ceramic production continued an earlier one, or if it emerged following the first Crusade. This is puzzling because Acre potters manufactured vessels that were intended for, and utilized by, both European and Eastern consumers. If indeed there was continuation, it could have been only by the Oriental Christians and Jews that remained after its conquest in 1104.[52] There are two features in the Acre production that may indicate continuity, the jug forms that are similar to Eastern/Islamic style and the use of seawater to lighten the surface color of the Crusader Acre ware, that could be an attempt to continue the local tradition of buff-resembling wares, although it is ambiguous if these features reflect the desire of the potters or of the consumers.

---

[51] David Jacoby, "Frankish Beirut: A Minor Economic Centre," in *Crusader Landscapes in the Medieval Levant: The Archaeology and History of the Latin East*, eds. Micaela Sinibaldi, Kevin Lewis, Balàzs Major and Jennifer Thompson (Cardiff, 2016), 263–276, see p. 264.

[52] David Jacoby, "Aspects of Everyday Life in Frankish Acre," *Crusades* 4 (2005), 73–103, see pp. 84–86.

New workshops producing glazed wares, which emerged following the Crusades, were noted only in Cyprus, at Paphos-Lemba, Nicosia and Enkomi. It has been suggested that at least Lemba and Nicosia were crown estates, suggesting direct Frankish royal involvement in large-scale ceramic production.[53]

Cultural identity of the potters

Form, function and decoration of ceramics can be misleading when it comes to determining the cultural affiliation of the potters, since these features are more likely to reflect the demands and requirements of the consumers. However, this is not a safe conclusion either, since newcomers may want to adapt to local food traditions or consider the local table ware as "exotic" and therefore desirable. It is also possible that the local potters would have adopted Western traditions to cater to the needs of the Frankish newcomers. Form and function of the vessels, or their style of decoration, are therefore not adequate to determine the cultural identity of potters in the Latin East.

For this reason, other factors should be examined. As mentioned earlier, continuation of pottery production existed in at least three workshop clusters: the region of Antioch and Cilicia, Beirut and the handmade wares in Cyprus. This information is beneficial for the question of the potters' identity. Since local population continued to reside in Beirut after the Frankish takeover, it would be safe to say that the same local potters, or pottery families, continued to operate the ceramics workshops. It seems that they profited from the demographic and economic changes that came with the change of regime, including changes in the maritime trade patterns, and hence production increased. The same is apparently true for the handmade ware production in Cyprus and the glazed bowls that were produced in the territories of Antioch and Cilicia. Therefore, it would be safe to conclude that the potters in these workshops were locals. In Cyprus the handmade potters were most likely Greek-Orthodox Christians. Whether the potters in Beirut and Antioch/Cilicia were Muslims or Oriental Christians or Armenian remains unclear.

The Levantine handmade production coexisted in territories that were in Frankish, Ayyubid or Mamluk hands and continued without interruption into the following Mamluk period, indicating that the potters were most likely from the indigenous population.

In the workshops of Acre, and of Paphos-Lemba, Nicosia and Enkomi, new advances in ceramic production began shortly after the arrival of the Franks. The cultural identity of these potters remains ambiguous, and at this stage only assumptions can be made. It remains unclear if production of simple kitchen ware existed in Acre prior to the Frankish conquest and simply increased following it.[54] If there was continuation of local production at Acre, it would be safe to say that the potters were most likely Oriental Christians, as this was the main population that continued to reside in the city. On the other hand, it is clear that local glazed ware production in Cyprus did not exist before the Frankish annexation. It has been suggested that the glaze technology used in the production of the Paphos-Lemba ware followed preexisting eastern Mediterranean traditions, and that since the Paphos potters possessed adequate level of skills and technical knowledge to produce high-quality glaze, either local potters adopted imported glaze preparation traditions, or foreign potters from neighboring regions, perhaps from the Latin East, arrived with the technology.[55]

---

[53] Gabrieli, Waksman and Shapiro, "Cooking Wares," Footnote 5.

Specialized production for export

While the ceramic workshops in the Latin East primarily met local requirements, some became specialized production centers, focusing on a specific ware. Whether the potters were locals or Frankish newcomers who seized the new opportunities associated with population and trade change, it is clear that the emergence of these production centers is linked to the change of regime that brought along demographic and economic changes. The increase in the number of workshops and their output, in combination with their location in port cities or their proximity, indicate that they were targeted for export. Consequently, they became part of the thriving maritime trade, in which ships of Italian and local merchants transported vast amounts of glazed bowls and plates densely packed. The glazed bowls produced in the workshops of Paphos-Lemba and Antioch/Cilicia were specifically designed for Western dining, in which individual bowls of a smaller diameter were used and were a result of improved technology, using tripod stilts and kiln bars to facilitate mass production.[56] The bowls and plates could have been exported as profitable commodities in their own right, or they could have been part of a composite cargo or served as a salable ballast, or a combination of all three.[57]

The markets of the Latin East were flooded during the thirteenth century with colorful glazed, mass-produced wares manufactured in the eastern Mediterranean or beyond (Figure II.8.7).[58] The existence of workshop clusters with advanced technology show an industrialization of production. This can roughly be compared

---

[54] Stern, Waksman and Shapiro, "Ceramic Production".

[55] Ting et al., "Glazed Ware Cyprus".

[56] Joanita Vroom has suggested that change in the diameter of table wares was indicative of the newcomers' culinary traditions: Vroom, "Ceramics and Identity," 419–426, and see references therein.

[57] Stern, *Crusader-Period Pottery*, 139–159; Edna J. Stern, "Maritime Commerce in the Latin East as Reflected in the Import of Ceramics," in *The Crusader World*, ed. Adrian J. Boas, (New York, 2016), 519–543.

[58] Stern, *Crusader-Period Pottery*, 65–99; Stern, "Maritime Commerce".

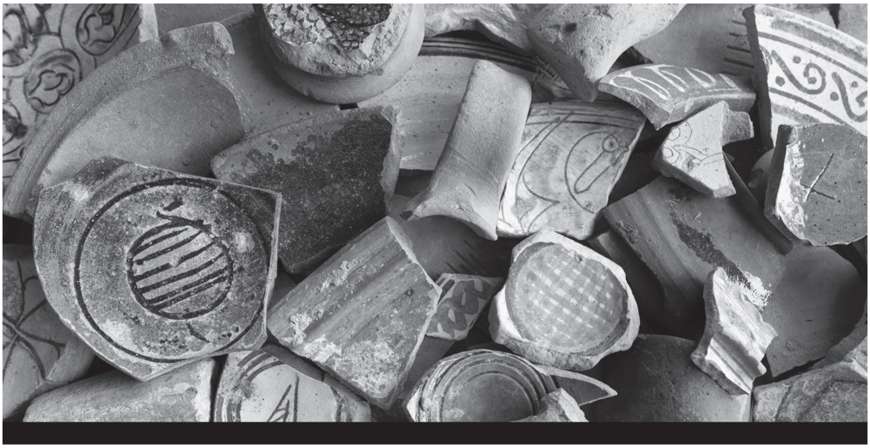


Figure II.8.7 An assortment of sherds from the excavations in Acre, including imports. Photo by Daphna Stern. © IAA

to the nineteenth century when European and British porcelains flooded the export markets following the Industrial Revolution.[59]

The workshops produced and exported by sea not only appealing glazed bowls, but also kitchen and glazed cooking ware. The extent and volume of diffusion of the Beirut cooking ware can be explained by the available suitable raw materials for producing cooking ware. The distribution of Acre common wares down the coast to Jaffa and Apollonia/Arsur, as well as inland to Tiberias, indicates regional demand for these wares. Jugs produced in two distinct forms associated with different traditions indicate that the Acre Ware vessels were intended for consumers with various cultural identities in the region, thus enlarging the market of this ware. The cooking pots, jugs and jars could not be densely packed like the glazed bowls, but at least the Beirut cooking ware were extensively transported by sea and land. This demonstrates that some of the wares were distributed despite being bulky, thus production was clearly for export.

Redford had previously suggested that production increase of the Antioch/Cilicia workshops was not only a derivative of a growing market for these wares, but perhaps also deliberate promotion of ceramic manufacture aimed for maritime distribution by the Italian merchants. These merchants, and especially the ones from Genoa who were involved in the trade of lucrative commodities in the north-eastern Mediterranean region, took an active part in economic growth since the early thirteenth century. He suggested that the Italian merchants were also active in creating a common ceramic taste in the medieval Mediterranean so as to adjust the ceramics for a larger consumer market with the intention of increasing the volume of maritime commerce. They therefore promoted common iconographic decoration schemes for these bowls as well as standardized shapes and sizes.[60]

---

[59] Haim Gerber, "Modernization in Nineteenth-Century Palestine: The Role of Foreign Trade," *Middle Eastern Studies* 18/3 (1982), 250–264, see pp. 250, 251; Marcus Milwright, "Imported Pottery in Ottoman Bilad al-Sham: Preliminary Observations on the Archaeological and Historical Evidence," *Turcica* 40 (2008), 121–152, see pp. 127–143; Véronique François, "European pottery imports in Ottoman Bilad al-Sham (18th–19th Centuries): Archaeological Data and Written Sources," in *14th International Congress of Turkish Art Proceedings*, ed. Frédéric Hitzel (Paris, 2013), 317–325.

The correlation of pottery production with the economic boom in the thirteenth century and the link to maritime merchants who distributed these ceramics by sea is obvious. Whether the merchants themselves promoted this process is still open to debate. However, it appears that the connection between ceramic manufacture and maritime traders started already in the twelfth century with the steady growth of commercial prosperity that accompanied the Latin presence in the East. Archaeological evidence for this can be found in the increasing number of kilns and workshops identified and in the extended distribution range of vessels from Beirut, and to some extent from Acre. Interestingly, although contemporary textual documentation of pottery is rare, it is mentioned in an indirect way in commercial contracts at three ports in the Latin East: Acre, Beirut and Marqab. Not surprisingly, there is archeological evidence pertaining to pottery production in these three sites. The commercial contracts underline the involvement of the maritime merchants, some of them most likely Italian, in the export and import of ceramics at these ports and that it was a source of state revenue through duties imposed on trade. Two references to duty lists in the *Livre des Assises de la Cour des Bourgeois* dated to the late twelfth or mid-thirteenth century, pertain to the import and export of pottery through the port of Acre. Document B6 is of special interest to this study as it states that "all pottery goods, whether they be bowls, cooking pots, pots or jars, the law demands that they must rightfully pay as custom duty at the exit".[61] Although details regarding the ceramic ware, the forms or the quantities are missing, it is plausible to assume that these are the ceramics manufactured in the Acre workshops. Jean d'Ibelin, Lord of Beirut, excluded pottery from the terms of a commercial treaty with the Genoese merchants in 1223. Although the reason for this tax exclusion is not stated, this passage confirms what is known from the archaeological evidence, that ceramics produced in Beirut were widely exported. More than that, it adds the information that the Genoese were involved in the pottery trade and since it warranted particular mention, that its volume was significant and therefore presumably profitable.[62] The find of a uniform type of ceramic ware in the excavations of Margat Castle (al-Marqab) suggests local production there. It is possible that this is the ceramics mentioned in a list dating to 1193 in the *Cartulaire general de l'Ordre des Hospitaliers de Saint-Jean de Jérusalem* that implies that port duties were charged on certain local products, including jars, pots and pitchers.[63] The ceramic trade was certainly part of the short- and medium-distance maritime coastal trading in which ships operated by the Italian and local traders plied the coasts of the eastern Mediterranean.[64] To sum up, it seems that the importance of the ceramic industry in the Latin East may have increased steadily from the twelfth century, reaching a peak in the thirteenth. It is possible, if one accepts Redford's suggestion, that the maritime merchants not only promoted production of the glazed wares but may have deliberately promoted the Beirut and Acre production.

---

[60] Blackman and Redford, "Ceramics from Kinet," 90–92, 94–96; Redford, "Trade and Economy," 307–309.

[61] Pringle, "Proto-Maiolica," 113; David Jacoby, "The Fonde of Crusader Acre and its Tariff: Some New Considerations," in *Dei gesta per Francos. Crusade Studies in Honour of Jean Richard*, eds. Michel Balard, Benjamin Z. Kedar and Jonathan Riley-Smith (Aldershot, 2001), 277–293, see pp. 284, 292–293; Stern, *Crusader-Period Pottery*, 147.

Pottery production as one of the developing industries under the Franks

The development of pottery manufacture into an industry targeted for export can be compared to some extent to other lucrative export industries that emerged in the Latin East, following technological developments. One of these is connected to a new food crop, the sugar cane, and the production and trade of crystallized sugar for which there are abundant textual sources from the mid-twelfth century. Despite a few dissimilarities, comparison allows some insights into the ceramics industry, which will be detailed in the conclusions. In the sugar cane the Franks encountered a new food crop that had not been familiar to most of them. However, within half a century after the First Crusade they acquired the knowledge and the skills required for its cultivation and for manufacturing sugar, and became heavily involved in the production of one of the Kingdom of Jerusalem's most lucrative cash crops. The Franks seem to have developed a small-scale production to a well-organized industry. Under their rule and initiative, the refining process underwent significant technological developments that enhanced output and raised the volume of production. Local inhabitants were largely involved in this labor-intensive industry, as workmen and as foremen, as indicated by textual sources. Therefore, it would be safe to say that the sugar industry had a clear impact on the lives of the local population, on the maritime merchants who exported this lucrative good and on the landlords: kings, nobility and the military orders, who benefited from the plantations and from the taxes levied on production and export. Textual sources reveal that the knowledge of sugar production was transferred from the Latin states to Lusignan Cyprus, together with Oriental Christians from the Kingdom of Jerusalem and other Frankish states who were experts in sugar production and were encouraged to settle in Cyprus. Sugar production continued after the fall of the Latin East in some regions.[65]

---

[62] Pringle, "Pottery as Evidence," 468–469; Stern, *Crusader-Period Pottery*, 147; Jacoby, "Frankish Beirut," 267.

[63] Pringle, "Pottery as Evidence," 468.

[64] David Jacoby, "The Trade of Crusader Acre in the Levantine Context: An Overview," *Archivio storico del Sannio* 1–2 (1998), 103–120; David Jacoby, "The Economic Function of the Crusader States of the Levant: A New Approach," in *Europe's Economic Relations with the Islamic World, 13th – 18th Centuries*, ed. Simonetta Cavaciocchi (Grassina, 2007), 159–191; David Jacoby, "Acre-Alexandria: A Major Commercial Axis of the 13th Century," in "*Come l'orco della fabia", Studi per Franco Cardini*, ed. Marina Montesano (Florence, 2010), 151–167.

Conclusions

The territories in the Latin East and Cyprus experienced social changes and economic growth during the twelfth and the thirteenth centuries. The expansion of pottery production of standardized mass-produced glazed bowls into an industry targeted for maritime export was part of this.

The meager textual sources regarding the pottery that was traded through the port cities stand in contrast to the abundant archaeological finds that were reviewed here. However, as more textual sources survived on the subject of sugar production, they may contribute toward understanding the dynamics that caused the growth of pottery production, since there are similarities between the two. As with the sugar production, once the Frankish populace was exposed to local ceramic practices, their input became evident – during the twelfth century, and even more in the thirteenth. The technology of glazed ceramics may have been transferred from the Latin East to Cyprus, possibly in a similar manner to sugar production, with expert potters being relocated to Cyprus. The intensification of ceramic manufacture using Eastern technological developments – the tripod slits and kiln bars – and increasing the production capacity by the introduction of workshop clusters producing similar ware, was at least partly motivated by the flourishing maritime trade that came with the Franks, in which numerous ships and boats of foreign and local merchants plied the shores of the Latin East. The textual evidence of the duty levied at ports for export and import of ceramic wares is evidence that ceramics were part of the lucrative trade. This apparently brought also to a change in the economic significance of ceramics, as it became not only an everyday consumption product but also a lucrative good, produced on an industrial scale, targeted for maritime export. As with sugar, the expansion of this industry must also have had an impact on the local potters and pottery-making families previously involved in manufacture, and those who joined the craft.

The question of identifying the cultural identity of the producers was raised. It seems that the majority of the potters were locals. The best example for this is Beirut, in which a combination of the historical and archaeological documentation exists. Historical documents indicate that the local inhabitants continued to reside in the town following the Frankish conquest, and the archaeological evidence shows continuity in ceramic production from the Fatimid to the Crusader period. The handmade pottery manufacture continued without change after the fall of the Latin East, indicating also probably local potters. Evidence of continuous production of sugar also exists, indicating local craftsmen. We suggested, on the basis of the similarity to sugar production, that potters from the mainland relocated to Cyprus to produce glazed ware. While most of the potters in the workshops may have been locals, the connection to the Frankish entrepreneurs and maritime merchants was the winning card for pottery production in the Latin East. This enabled it to become a lucrative export industry, in addition to answering local demand for ceramics.

---

[65] Bronstein, Stern and Yehuda, "Sugar Cane", and see references therein.

The study of ceramic production at a specific time and space can be beneficial not only for ceramic studies but also to confront larger issues related to life in the Latin East. It has been confirmed that export of ceramics brought a revenue to the lord of the port of export or to the king. The Italian maritime merchants paid duties willingly, suggesting that it was a lucrative commodity worth paying a tax. This raises questions of a wider scale, such as what was the degree of state involvement in pottery production? To what extent were the Italian merchants involved? Was the state and/or were the merchants promoting ceramic production and export? Commissioning orders? Supervising quantities, regulating prices? How did this relate to other issues in the Latin East?

The ceramic sherds reflect the regions in which they were were manufactured, as well as the potters who created them, the merchants who transported them and sold them in near or far markets and the people who used and eventually discarded them. They tell a narrative of the the multicultural towns and villages, the ports and castles in which they were found. While doing so, they tell the tale of the people who lived in the Latin East.

9 Between *Moneta* and *Sikka*

Minters and mints in the Frankish East (1099–1291)

Robert Kool

Introduction

Knowledge about mints and minting procedures in the medieval Crusader states are even today mostly shrouded in mystery. Whereas the coinages of the 'Latin East' have received ample attention over the past 150 years, very little has been written about the mints that produced them. One of the main reasons is of course that, like much of the archival records in the Crusader states, also its mint registers did not survive the double demise of the Crusader states of the Ayyubid (1187) and Mamluk (1291) conquests. More importantly, what medieval numismatists and historians call 'mints' in the Crusader states have not really been understood within their proper geographical and cross-cultural context. I mean vis-à-vis minting practices in the medieval West or within the context of regional mint practices in medieval Byzantium and the Islamic neighboring states that influenced minting traditions in the Frankish states.

Puzzlingly, despite the radical differences in technological and cultural traditions for producing coinages used in the Frankish states for almost 200 years (e.g. Byzantine-type coppers, Islamic dinar and dirham imitations and Western European–type billon deniers and silver gros), scholars routinely assumed that these coinages were issued in 'the mint' of the different capitals of these territorial states without giving it much further thought. Thus, all coinages issued by the rulers of Tripoli were believed to have been minted 'in Tripoli' and so forth. But what exactly was the character of these mints? Were these centralized establishments, independent workshops or just 'minting' places? Were gold and silver coins minted in different establishments or workshops, or one central mint establishment? And who were employed in these mints? All this has not been adequately addressed.

It is thus useful to take a fresh look at historical, numismatic and archaeological evidence that has accumulated since the nineteenth century to better understand the development of mint and mint practices in the Crusader states.

To accomplish this, I will first outline the existing documentary, numismatic and archaeological evidence about mints in Crusader states, particularly in the Kingdom of Jerusalem. Secondly, I will review minting traditions in the medieval West, to which many of the Crusaders and the indigenous *pulani*, the Latin inhabitants of the kingdom, remained intimately connected, and of neighboring states in the East,

DOI: 10.4324/9781003146926-10

medieval Byzantium and Fatimid and Ayyubid Egypt and Syria, all which to one degree or another influenced the kingdoms' history, culture and economy. Finally, I will present some new evidence about the presence of moneyers in charters related to the Frankish presence in the East.

Crusader 'mint or mints' – documentary evidence

Over the past 150 years a handful of surviving documents related to mints and minting have been used and recycled by numismatists and scholars. Virtually all of these relate to the use of gold dinars and their imitations bezants – both confusingly called *bisantios* by contemporaries in the Frankish East. The gold dinars were issued by the Fatimid caliphate in North Africa and Egypt since the tenth century. This was the money the Frankish settlers adopted as their main local currency and payment standard, and not the thin billon silver deniers they imported from the West or struck locally, as many scholars and laymen often still think.

Most of the surviving references associated with a mint or minting in the Frankish East are written in Latin. Many of these, presented here in chronological order – are from commercial documents of the twelfth and early thirteenth centuries. The earliest one, a Venetian notarial deed from Acre in 1142, was issued in the reign of Fulk and Melisende. It mentioned *bizancios saracenatos . . . de rege illius terrae*, referring to gold bezants minted by the king of Jerusalem.[1] Similar references to the existence of a royal mint started to appear more frequently in commercial documents during the reigns of Baldwin III (1143–1163) and his brother Amaury I (1163–1174). These explicitly mention a 'mint of the king of Jerusalem' in which bezants of good-quality gold were struck.[2] Also the more formal property charters of the kingdom mention such royal money. One dated to 1164 mentioned a yearly rent of 10 besants in the form of *regalis monete*, 'royal money' granted to the leprosery of Saint Lazarus in Jerusalem.[3] Another sale contract from Jerusalem in 1169 mentioned the purchase of a large vineyard by the monastery of the Holy Cross for 33 "royal gold dinars of full weight".[4]

---

[1] *debeam dare tibi vel tuo misso infra dies quindecim bizancios saracenatos bonos auri de rege illius terrae de pesa secundum consuetudinem illius terrae octinginta*. See eds. Raimondo Morozzo della Rocca, Antonino Lombardo, *Documenti del commercio veneziano nei secoli XI – XIII*, 2 vols. (Turin 1940 und Dies. (republished) *Nuovi documenti del commercio veneziano nei secoli XI – XIII*, Turin 1953, 39–40 no. 81.

[2] *bisancios saracenatos de moneta regis Hierusalem*; see Jacques Yvon, "Besants sarracenats du roi de Jerusalem," *Bulletin de la société française de numismatique* (1961), 81–82, who refers to Venetian commercial documents between 1161 and 1211, which mentioned frequently the payments of sums of money in *bisancios aureos surracenatos . . . de moneta regis Hierusalem* at Antioch, Tyre and Acre.

[3] *bisantios regalis monetae*. See Arthur de Marsy, "Fragment d'un cartulaire de l'ordre de Saint Lazare en Terre-Sainte," *Archives de l'Orient Latin* 2 (1884), 141, no. 23 (RRH 401).

[4] Johannes Pahlitzsch, *Graeci und Suriani im Palästina der Kreuzfahrerzeit. Beiträge und Quellen zur Geschichte des griechisch-orthodoxen Patriarchats von Jerusalem* (Berlin, 2001), 314–318;

The existence of a royal mint or mints issuing ‘royal money’ in the Kingdom of Jerusalem was not just a matter solely of interest to a limited circle of medieval numismatists or antiquarians interested in its coinage. In fact, the issue goes right to the heart of a more important historiographical discussion concerning the political structure of the Crusader states and the Kingdom of Jerusalem in particular. Late nineteenth and early twentieth century scholars tended to portray the kingdom as a perfect decentralized feudal monarchy in which the king and his most important vassals or barons shared power on an equal basis. This also meant the right to mint coins in their fiefs.[5] However, in this case it was based on an erroneous reading of a list appearing in a mid-thirteenth-century legal treatise compiled by John of Ibelin, the foremost jurist in the kingdom at the time. This list enumerated 22 seignories that had the right to *court*, *coins et justice*.[6] In the 1940s the count Chandon de Briailles proved convincingly that the passage referred to the prerogative of sealing and not minting coins.[7] From this period onward Crusader-period historians whose works dealt with the Frankish settlement in the East showed that royal power and administration also in financial matters was far stronger and centralized, particularly during the twelfth century. This view connects to two important clauses related to a royal *monategium* – a royal monopoly over the issue of gold and billon moneys – imposed by the kings of Jerusalem. Published in the nineteenth century they have occasionally been referred to in works about the constitutional history of the Jerusalem kingdom, but by and large their significance has been ignored by scholars interested in the monetary history of Frankish settlement in the East.[8] Promulgated during the reign of Baldwin III

---

see Revised Regesta Regni Hierosolymytani Database http://crusades-regesta.com/database?search_api_views_fulltext=dinars+of+full+&field_institution_recipient=&field_grantor=&field_recepient=&field_year_1=&field_year=&field_term_type_field_term_title= (visited 04/01/2021).

[5] Gustave Schlumberger, *Numismatique de l’Orient latin* (Paris, 1878), 3–4.

[6] John of Ibelin, *Le Livre des Assises* (Brill, 2003), 603–606, Chapter CCLXX; see also a passage in the *Livre au Roi* authored later See Miriam Greilsammer, *Le Livre au Roi. Introduction, notes et edition critique* (Paris, 1995), Chapter XXXIX; this list was been based on a much earlier list dating to the 1180’s see John of Ibelin, *Assises*, 43.

[7] Chandon de Briailles, “Le droit de ‘coins’ dans le royaume de Jérusalem,” *Syria 23* 3/4 (1942): 244–257.

[8] The original assize did not survive but was copied and preserved in the Livre du Roi, a coutumier composed in the kingdom at the end of the twelfth century. See the editions published more than 150 years ago by E. H. Kausler, *Les livres des assises et des usages dou Reaume de Jerusalem*: *sive leges et instituta Regni hierosolymitani* (Stuttgart, 1839), and M. Beugnot, *Livre au Roi (Recueil des Historiens des Croisades Lois 1: 601–44*) (Paris, 1841–1843). These have now been superseded by a new critical edition by Greilsammer, see note 6. For reference to the text in works on the Crusader period and its coinage see Dorothy H. Cox, *The Tripolis Hoard* (New York, 1933), 58; Joshua Prawer, *Crusader Institutions* (Oxford, 1980), 430–468; A. G. Malloy, *Coins of the Crusader States 1098–1291* (New York, 1994), 51 and Robert Kool, *The Use of Coinage in the Frankish Kingdom of Jerusalem 1099–1291*, PhD, Hebrew University of Jerusalem (Jerusalem, 2013), 79–80.

or his predecessor Baldwin II,[9] as part of an edict enumerating abuses of regalian rights, it incorporated two violations related to the king's monopoly on coinage. The first forbade any liege man from counterfeiting (billon) money and gold bezants on his estate:

> *se aucun houme liege fait au fait faire fouce monee au faus besans en son casau ou en sa maison; si iuge la raison que il det ester deserites a tous iors mais*.[10]

The second was even more explicit. It warned any liege man from violating the king's monopoly by minting coins on his estate:

> *se aucun home lige qui que il fust terrier our autre, faisat faire labeurer et batter monnee en sa terre si juge la raison qu'il det ester deserites a tousjors mais por se que houme ne dois avoir parteurer ne or ne monee laborant fors li Rois*.[11]

Documents referring to the existence of mints in different cities

Aside from a few unambiguous references to a royal mint or a royal monopoly of minting we possess a handful of documents that contain information about the physical location of a mint or mint workshop. The earliest documentation about the existence of such a mint located in Tyre dates to 1124, the year the Frankish army under Baldwin II captured this city. In his biography of the Fatimid caliph al-Āmir bi Aḥkām Allāh (1102–1130), the Muslim historian Ibn Khāllikān (1211–1282) noted that "when they (the Franks) captured Tyre they minted coins in the name of the mentioned al-Āmir for three years and then stopped doing this".[12] Presumably this referred to the continuation of minting the Fatimid-style dinars of al-Āmir after 518/1124, now under Crusader control. Coin evidence shows that gold dinars and some fractions were struck in the name of al-Āmir at Sūr/Tyre, commencing in 475/1101 and continuing until 517/1123 CE, a year before the Frankish conquest and possibly during the Crusader siege of the town like this coin, found in Acre (Figure II.9.1).[13] But contrary to Ibn Khāllikān's passage no

---

[9] On the scholarly debate if this was Baldwin II or III see Jonathan Riley-Smith, "Further Thoughts on the Layout of the Hospital in Acre," *Chemins d'outre-mer: études d'histoire sur la Méditerranée medieval offertes à Michel Balard*, eds. Dominique Valérian, Damien Coulon, Catherine Otten-Froux and Paule Pagès (Paris, 2016), 753–764.

[10] see Greilsammer, *'Le Livre au Roi*, 112.

[11] Ibid.

[12] Ibn Khālikān, *Wafiyyāt al-Aʿyān wa Anbāʾ Abnāʾ al-Zamān*, ed. I.ʿAbbās, 8 vols. (Beirut, 1994), 5, 297–302.

[13] See Douglas Nicol, *A Corpus of Fatimid Coins* (Trieste, 2006), 340–343. Nicol noted a single rare *fals* issued in the name of the local Fatimid governor, Muslim Abd-Al-Rahman, possibly issued during the Crusader siege of 517/8AH 1123/24 CE.

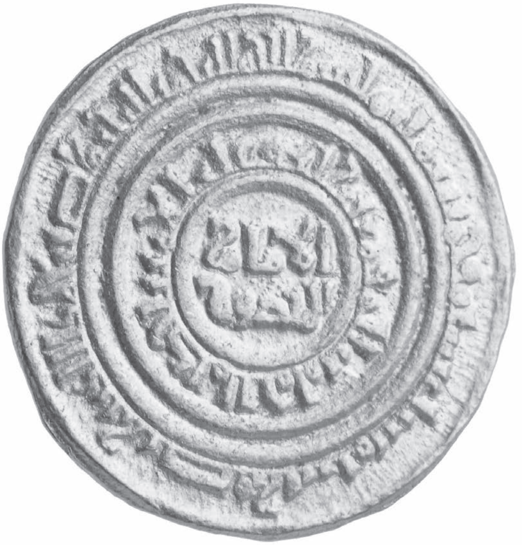


Figure II.9.1 Gold dinar of the Fatimid caliph al-Āmir, minted in Sūr/Tyre, 516AH/1122. (Photos: Clara Amit, IAA). © IAA

dinars from Tyre dated to 518/1124 or thereafter exist, be it either genuine Fatimid or any recognizable imitation.[14] It is though possible that the Franks simply continued using dies they seized in the mint, striking for three years dinars dated 517.

A letter written a quarter of a century later, to Everard, Master of the Temple by his senechal Andrew of Monbard in June 1149[15] presents unequivocal evidence for the simultaneous minting of royal gold money in Jerusalem and Acre.[16] In his letter Andrew, after informing of the death of Raymond of Poitiers, ruler of Antioch, and the destruction of his army at the battle of Inab (June 29, 1149) by Zengid forces, reported to his superior that the Templar Order had sent substantial reinforcements to defend Antioch financed by borrowing "7000 bezants of Acre and a 1000 of Jerusalem".[17] The formulation of the letter – even if this would refer to 'virtual' money of account – distinguished between two different types of bezants, one struck in Acre, the other struck in Jerusalem, stating that two different workshops or mints were involved. The aforementioned letter is the only reference of a mint or workshop in which gold bezants were produced in pre-1187 Jerusalem. But other documents suggest the existence of bezants produced in Acre and Tyre. For Acre, the kingdom's main emporium and capital after the loss of Jerusalem in 1187, we possess besides the letter, five references hinting to a mint or workshop(s) producing gold bezants between 1190 and 1260. Three of these mention bezants according "to the weight of Acre" or the "exact weight of Acre".[18] One could suggest that this referred to a legal standard rather than a real coin. However, as Metcalf already suggested, this is not the obvious interpretation. Rather, they strongly indicate the existence of specific weight standards of gold bezants produced in the city.[19] This is also implied in other documents that mention more straightforward the existence of minting in Acre and Tyre. In the case of Acre, the first document in question is a grant in 1201 of a wide range of economic privileges to Venetian merchants visiting the kingdom of Cicilian Armenia.[20] The document, though, also stipulated limitations to these economic exemptions. One of these concerned the import of gold and silver bullion and the *seignoriage*, the royal tax on bullion brought to a mint for coining. These the Venetian merchants had to pay to the local mint authorities just as "they must pay the same dues as do those in the territory of Acre", a clear reference to a similar procedure existing for minting money in Acre.[21] A second, more famous reference concerned the efforts of the papal legate Eudes de Châteauroux, who accompanied the French king Louis IX on the Seventh Crusade in the late 1240s to prohibit the minting of imitation gold and silver dinars and dirhams struck in Frankish Acre at the time. Scandalized that these coins bore 'blasphemous' inscriptions praising the Muslim religion and its prophet Mohammed, he turned to Pope Innocent IV, who confirmed his legate's injunction in a reply. In the letter Innocent IV threatened with excommunication all those who 'made' or 'engraved' such gold dinars and silver dirhams in Acre, as well as in other parts of the kingdom of Jerusalem, Tripoli and Antioch. This was a clear reference to the presence of minters and engravers not only in Acre but also in Tripoli and Antioch, where its rulers minted coinages independently from those of the Kingdom of Jerusalem.[22]

---

[14] David M. Metcalf, *Coinage of the Crusades and the Latin East* (London, 1995), 46.

[15] Jochen Burgtorf, *The Central Convent of Hospitallers and Templars* (Brill, 2008), 481–482.

[16] David Michael Metcalf, "Crusader Bezants of the Latin Kingdom of Jerusalem: Two Additional Sources of Information," *Numismatic Chronicle* 160 (2000), 203.

[17] *Pro quorum apparatu, antequam pontem Tyri transissemus, septem millia bissantiorum Accar*(*onensium*) *et mille Jerusalem mutuò accepimus*. See M. Bouquet et al., eds., *Recueil des historiens des Gaules et de la France*, t.15 (Paris, 1808), 540–541.

---

[18] For a Genoese contract from 1190 mentioning *bisantios de acri iusti ponderis* see Mario Chiaudano and Raimundo Morozzo della Rocca, *Oberto de Mercato (1190)* (Genoa, 1938), No. 569; for a contract between the Armenian king Leon I and the Hospital Order in 1214, which mentions a loan by the former of 'XX millia bisantiorum ad pondus Accon' to meet his expenses for marrying his daughter to John of Brienne, king of Jerusalem, see Joseph Delaville Le Roulx, *Cartulaire général de l'ordre des Hospitaliers de St Jean de Jérusalem*, 4 vols. (Paris, 1894–1906), 2, 165–166, no. 1427 (*RRH* no. 869); and for an agreement between the archbishop of Tyre and the abbot of monastery of St. Mary of Josephat about the tithes of several casalia involving the annual payment by the abbot of *70 bisantios Sarracenos ad pondus Acconense et nihil aliud* see Charles Kohler, 'Chartes de l'abbaye de Notre-Dame de la vallée de Josaphat en Terre Sainte', *Revue de l'Orient Latin* 7 (1899), 185–187, No.78. (*RRH* 1290).

[19] A number of trading contracts and testaments written in Venice, Acre and Negroponte between 1209 and 1215 mentioned *bicancios auri sarracenatos de moneta regis Ierusalem bonos pensantes*. See Morozzo, *Documenti del commercio*, 48, 51, 54, 62, 102.

[20] Gottlieb L. F. Tafel and Georg M. Thomas, eds., *Urkunden zur älteren Handels und Staatsgeschichte der Republik Venedig, mit besonderer Beziehung auf Byzanz und die Levante*: *Vom neunten bis zum Ausgang des fünfzehnten Jahrhunderts (1205–1255)* (Vienna, 1856–7), 1, 373–385, no. 94 (*RRH* no. 786).

[21] *et excepto, quod omnes Venetici, qui adduxerint aurum et argentum, et Bisancios seu monetas inde fecerint uel operati fuerint in terra mea, hij teneantur persoluere dricturam, sicut persoluunt bij, qui Bisan- cios seu monetas operantur in Acconensibus partibus. Quodsi bisancios seu monetas non operati fuerint, nullatenus persoluere dricturam teneantur.*See *Tafel* and *Thomas, Urkunden*, 382.

For Tyre we possess only a single reference, in a list of Venetian possessions in the territory around Tyre composed by Marsilio Zorzi, the Venetian bailo, in 1243.[23] The list noted the loss of a house "where coins had been produced and struck" *fabricata et incussa moneta fuit* when Tyre was held by Conrad of Montferrat (1187–1192).[24] Several scholars thought this referred to the presence of a separate Venetian mint, but this seems highly unlikely as privileges to Italian communes were far more circumscribed and did not include independent minting rights as the aforementioned case in Armenia showed.[25]

Finally, we have rare epigraphic evidence for the existence of a 'Tour de la monnaie', a 'Tower of the Mint', in Tripoli in 1266–1268. A dedicatory inscription discovered in the area near the harbor of the city in 1928 mentioned the building (or restoration) by its ruler Bohemond VI (1251–1275) "of the mint of the Commune of the people of Tripoli"[26] (Figure II.9.2). Presumably, it decorated a tower of the citadel at the main gate that functioned simultaneously as mint and

---

[22] *Episcopo Tusculano, Apostolice Sedis legato, transmissa nobis insinuatione monstrasti quod, cum tibi liquido constitisset quod in binsanciis et dragmis, que in Acconensi et Tripolitana civitatibus fiebant a Christianis, nomen Machometi atque annorum a nativitate ipsius numerus sculpebantur, tu in omnes illos qui nomen et numerum ipsa in eisdem bisanciis et dragmis sive in auro sive in argento sculperent de cetero vel sculpi facerent in regno Jerosolimitano, principatu Antiochie, ac Comitatu Tripolitano, excommunicationis sententiam robur faceremus firmitatis debitum obtinere. Nos igitur, attendentes non solum indignum esse, sed etiam abominabile, hujusmodi blasphemium nomen tam sollempni memorie commendare, mandamus quatinus sententiam ipsam facias auctoritate nostra sublato appelationis obstaculo inviolabileter observari*. see *Les Registres d'Innocent IV* (1243–1254) *publiées ou analysés d'apres les manuscrits originaux du Vatican et de la Bibliotheque nationale par* Elie Berger, tome 3 (Paris, 1897), no. 6336.

[23] Marsilio Zorzi, *Der Bericht*, ed. Oliver Berggötz (Frankfurt-am-Main, 1991), 101, 135–171 (*RRH* no. 1114; *RRR* 2437).

[24] Hans E. Mayer, *Die Urkunden der lateinischen Konige von Jerusalem. (Diplomata regum Latinorum Hierosolymitanorum).* Altfranzosische Texte erstellt von Jean Richard. Vol. 1 (Hannover, 2010), 904–905.

[25] For different views on this issue by historians see Mayer, *Urkunden*, 905 versus a more circumscribed interpretation of venetian privileges by David Jacoby, "The Venetian Privileges in the Latin Kingdom of Jerusalem: Twelfth and Thirteenth-Century Interpretations and Implementation," in *Montjoie. Studies in Crusade History in Honour of Hans Eberhard Mayer*, eds. Benjamin Z. Kedar, Jonathan Riley Smith and Robert Hiestand (Aldershot, 1997), 155–175.

[26] Joshua Prawer, "The Earliest Commune of Tripoli and the 'Tower of the Mint'," in *Studies in Memory of Gaston Wiet*, ed. Myriam Rosen-Ayalon (Jerusalem, 1977), 171–177.

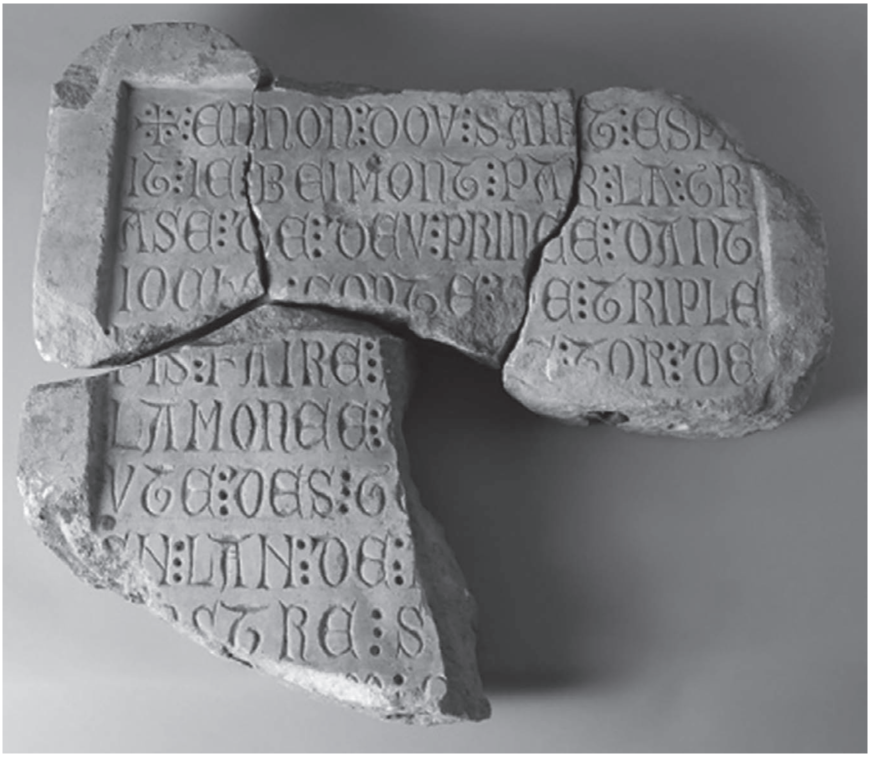


Figure II.9.2 Dedicatory inscription of the ‘mint tower’ in Tripoli, 1266–1268. (Photo: Jean-Vincent Claverie). © Jean-Vincent Claverie

custom house.[27] Probably it housed the mint where the silver gros were struck for the same Bohemond VI and his successor Bohemond VII, a large heavy silver coin imitating the gros tournois introduced by King Louis IX in France in 1266 (Figure II.9.3).[28]

Frankish ‘mint or mints’ – the coin evidence

From the 1930s onward, numismatists, archaeologists and collectors turned away from the documents and began to concentrate their attention on the coins themselves. Among the topics that occupied scholars was if the introduction of new

---

[27] Ibid., 177.

[28] Marcus Phillips and Susan Tyler-Smith, “A Further Parcel of Tripoli Gros,” *The Numismatic Chronicle* 158 (1998), 327–330.

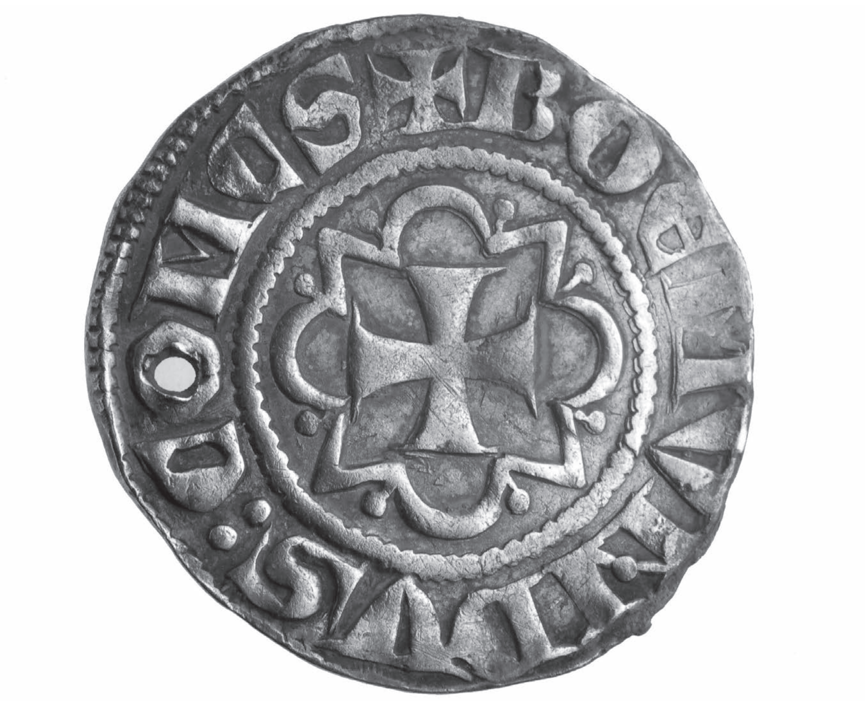


Figure II.9.3 Silver gros minted in Tripoli by Bohemund VI, 1266–1275. Kh. Shatta hoard, northern Israel (Photo: Clara Amit, IAA). © IAA

numismatic methodologies, such as comparative coin typology, variety/weight analyses and die-alignment control and hoard studies, could provide more information about Frankish mints active in the Latin East.

In his 1995 edition of the *Coinage of the Crusades and the Latin East* Michael Metcalf summarized most of the then available knowledge about mints and minting that could be extracted from the coins. Subsequently, a small number of publications added some additional information about mints and minting in the Latin East.[29]

If we take the Kingdom of Jerusalem as an example, its coins indicate the existence of an array of 'mints' or workshops and mint workers that struck a wide variety of gold and silver coins using completely different technologies and procedures, often exclusively used either in the West or East: imitations of Islamic dinars

---

[29] David Michael Metcalf, "Crusader Gold Bezants: Two Additional Sources of Information," *Numismatic Chronicle* 160 (2000), 203–218; Kool, *The Use of Coinage*, 113–202.

(‘bezants’) and dirhams (‘drachmas’), cut gold fragments with Latin inscriptions and symbols, and Western European–style deniers and gros. Gold bezants produced in the kingdom imitated between the 1140s and 1250 a dinar type introduced by the Fatimid caliph al-Āmir (1101–1130).[30] This dinar type depicted on its obverse central field the beginning of the caliph’s title, *al-Imam al Mansur*, surrounded by two marginal legends: an outer legend noting location and date (hijra year) when it was struck (Figure II.9.4)[31] and an inner legend with the remainder of the caliph’s secular and religious titles. The legend on the reverse asserted the ‘extremely good’ quality of the coins’ alloy and weight surrounded by two marginal legends proclaiming the central tenets of Islam, *surat l-Tawbah* 9:33 (outer legend) and the *Shahadah*, the latter with the important Shi’a addition that ‘Ali is the friend of Allah’. This dinar was imitated roughly in two main groups: an 80–85% gold alloy (20k) in the twelfth century, between the 1140s and 1187 (Figure II.9.5); and a debased c. 60–66% gold alloy (18k) after 1191 until 1250. These Frankish imitation bezants were inferior in weight, and many carried illegible

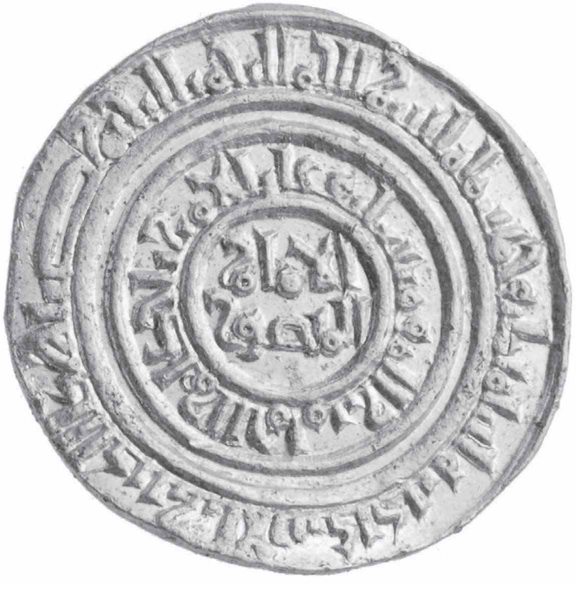


Figure II.9.4 Gold dinar of the Fatimid caliph al-Amir, minted in Alexandria 499AH/1105–1106. Harvard-Leon Levy excavations, Ascalon (Photos: Clara Amit, IAA). © IAA

---

[30] See Paul Balog and Jacques Yvon, “Monnaies à legendes arabes de l’Orient latin,” *Revue Numismatique* 6 serie, 1 (1958), 133–168; A. A. Gordus and David M. Metcalf, “Neutron Activation Analysis of the Gold Coinages of the Crusader States,” in *Metallurgy in Numismatics*, eds. David M. Metcalf and W. A. Oddy (Oxford, 1980), 119–150; Metcalf, *Coinage of the Crusades*, 43–116.

[31] Nicol, *Corpus*, 335–336.

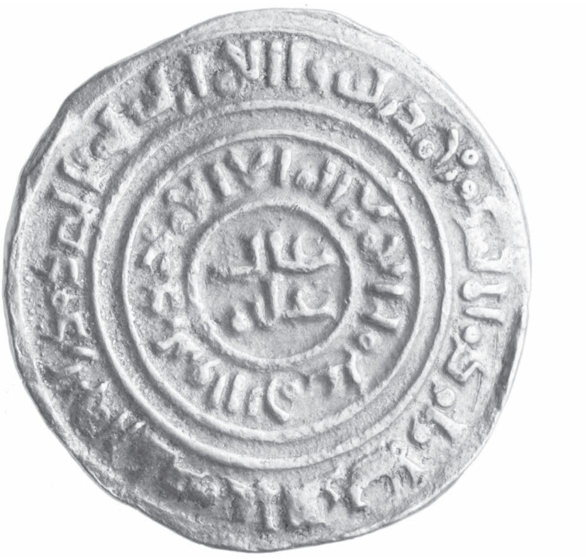


Figure II.9.5 Frankish bezant (1140–1187), Omrit excavations (2006), south of Baniyas, (Photo: Clara Amit, IAA). © IAA

marginal inscriptions.[32] Could this indicate an occasional shortage of mint personnel familiar with engraving the Arabic square Kufic script? Both groups were further subdivided chronologically according to stylistic and alloy elements.[33]

Suggestions regarding the mint attribution of the aforementioned types to Acre and Tyre have been made, based on combining neutron activation analysis, metrology and existing hoard evidence, but these results are not as clear cut as they seem, also considering that much of hoard evidence came from trade.[34] Nothing that we know further of these bezants allows us to locate their mints, except for assuming these were struck presumably in urban and economic centers of the Jerusalem kingdom, in Jerusalem, Acre and Tyre. In this respect the fact that both Acre and Tyre possessed a minting infrastructure in the previous Fatimid period becomes a weighty argument.[35] The only group of imitations that did give a clear indication of where and when these were produced is an already mentioned small series of ‘Christian’ gold bezants and silver dirhems struck between 1250 and 1259 on orders of the aforementioned papal legate Eudes de Chateauroux. These coins were truly hybridic ‘inventions’, imitating Fatimid designs but using legible *naskh* Arabic script of the contemporary Ayyubid coins. Sometimes engraved with cross inscriptions on these imitations proclaimed the central tenets of the Christian faith (one God, the Trinity) and a short profession of the Christian faith. More important, the outer marginal legend noted they were “struck in Acre” with the date according to the Christian Julian year (Figure II.9.6).[36] A separate group of gold cut fragments with Latin legends existed, which we now know circulated throughout the Crusader states as fractional gold money (Figure II.9.7), imitating a tenth–eleventh century local monetary tradition of cutting up gold dinars and fractions in small pay transactions.[37] Neither their provenance nor their inscriptions or types reveal anything about the location of their mint locations. What we do know is that these cut fragments, of which a complete specimen has never been found, were presumably struck from round dies produced under royal control. This seems to be confirmed both by the inscriptions, which resemble legends used on royal seals[38] by the Latin kings, and by the consistent quality of the gold alloy ranging between 69 and 82% gold.[39] There also existed a second type of cuttings, struck on thick, narrow bars of paler gold, which were cut in pieces.[40] It now seems that the cutting up of the fragments was also done at a mint or workshop that produced these before the pieces were put into circulation.[41]

---

[32] Most of these bezants weighted below the 4.00–4.25 g standard Fatimid dinar; see Gordus and Metcalf, "Crusader States," 131–132; for comparison with Fatimid dinars see W. A. Oddy, "The Gold Contents of Fatimid Coins Reconsidered," in Gordus and Metcalf, *Neutron Activation Analysis*, 116.

[33] Twelfth-century: sub group I = 1140s (B/Y 26); sub-group II = 1148/59–1187 (B/Y 25; 27); thirteenth-century (B/Y 27e – 33) see Balog and Yvon, "Monnaies," 148–152; improved by Gordus and Metcalf, "Crusader States," 124–135; for a reconfirmation of Gordus and Metcalf's research by proton activation analysis see Marc Bompaire, Jean-Noel Barradon and Cecile Morisson, "Crusader Gold and the Process of its Debasement," in *Metallurgy in Numismatics*, eds. Andrew Oddy and Michael Cowell, vol. 4 (London, 1998), 35–51.

[34] Gordus and Metcalf, "Crusader States," 135–137; Bompaire, Barradon and Morisson, "Crusader Gold," 39–40.

---

[35] The last Fatimid gold money struck in Acre dated to 495AH/1101 CE under the Fatimid caliph al-Musta’li, barely two years before its conquest by Baldwin I in the spring of 1104. See Nicol, *Corpus*, 332, Nos 2412–2414. Nicol catalogued a dinar minted in Akka (Acre) in 506 AH/1112 CE, a decade after the conquest, but he regarded its date as ‘questionable’. If so, no coinage was minted in Fatimid ‘Akka (Acre) in the name of his son and successor Al-Amir. For Tyre, see earlier, especially note 14.

[36] Balog and Yvon, “Monnaies,” 157–167.

[37] Robert Kool, “A Late Tenth-Century Fatimid Coin Purse from Bet She’an,” ‘*Atiqot* 67 (2011), 31–41; Robert Kool, Ehud Galili and Yaakov Sharvit, “Mid-twelfth Century Crusader Cut Gold Fragments from a Shipwreck off the Carmel Coast,” *Numismatic Chronicle* 176 (2016), 319–325.

[38] Like the term ‘SIGNVM’ on cuttings reading SIGNVM BALDVINI REGIS, associated with king Baldwin III. The term seems to strongly imply that this is gold is struck “under the seal’ e.g. authority of the king.

[39] Kool, “Crusader Cut Gold,” 322.

[40] Edward M. Besly, “Two New Parcels of Crusader Gold Fragments,” *Coin Hoards* 7 (1985), 421–432.

[41] Robert Kool, Nikolaus Schindel and Issa Baidoun, “A New Assemblage of Cut Gold Fragments from the Crusader Period,” *Israel Numismatic Research* 14 (2019), 169–192.

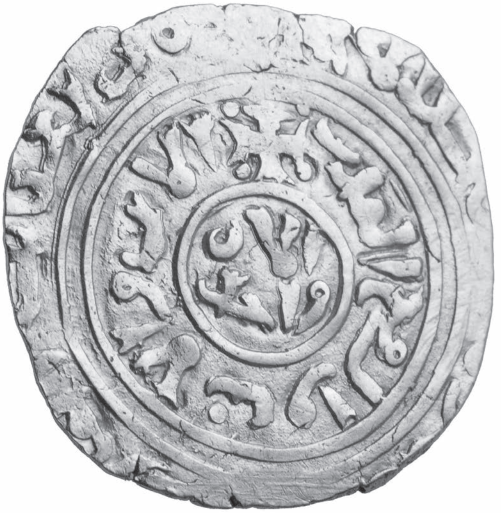


Figure II.9.6 Christian imitation bezant, “struck in ‘Akka”, 1251 (Photo: Clara Amit, IAA). © IAA

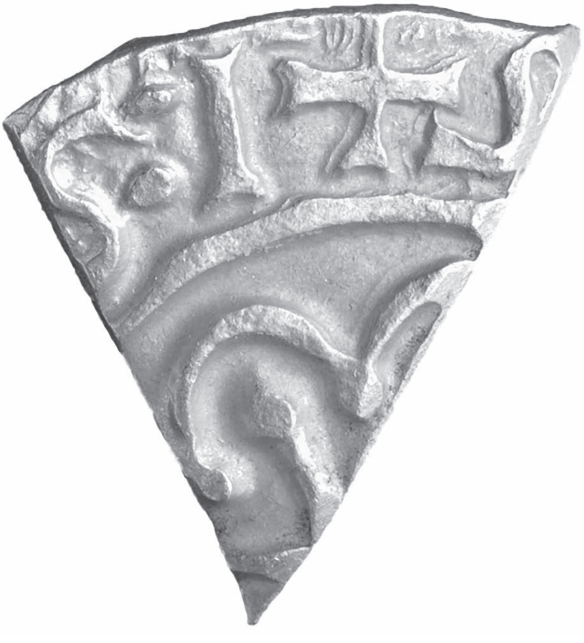


Figure II.9.7 Frankish ‘cut gold’ fragment, found in maritime survey of shipwreck (1998), Carmel coast (Photo: Clara Amit, IAA). © IAA

Analogous with these gold issues the kings of Jerusalem and the principalities of Antioch and Tripoli started minting several types of Western European–style deniers from the 1130s or 1140s onward. The most important group among these were a series of deniers whose inscriptions, imagery and relative stable alloy and weight showed these were all minted under royal control. It is possible that the first such royal billon to be issued was a small series of an anonymous regal coinage, showing a double 'patriarchal' cross flanked by an alpha and omega with the inscription **MONЄTA REGIS/RЄX IERL'M**, 'King of Jerusalem/From the Royal Mint' (Figure II.9.8). Possibly alluding to the True Cross, a powerful symbol associated with the kings of Jerusalem, the type was apparently introduced under Fulk of Anjou as king of Jerusalem (1131–1141).[42] It seems to have been directly inspired on the cross pattée denier with a suspended **A** and **Ω** minted under Fulk

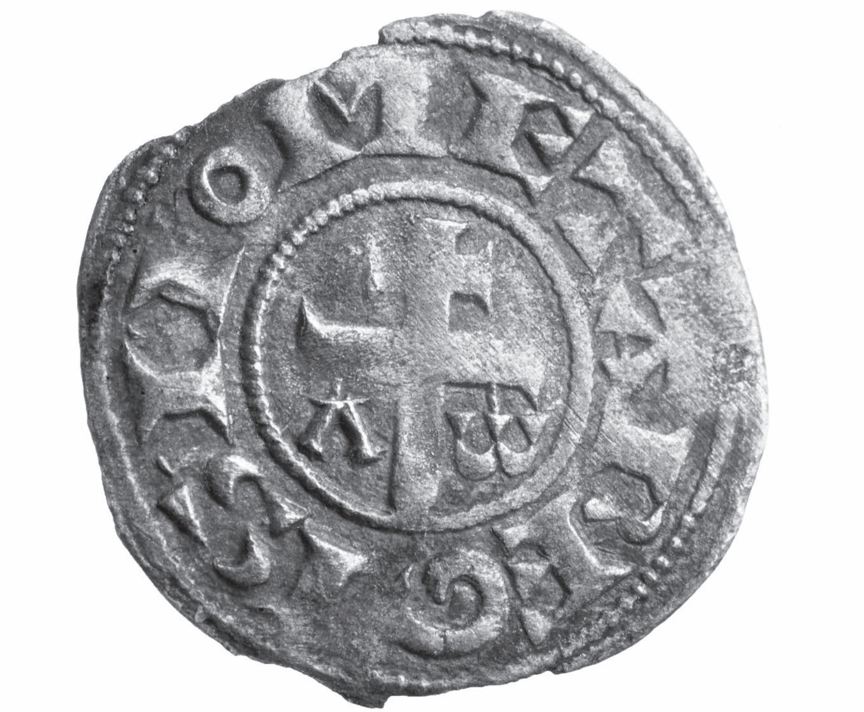


Figure II.9.8 'Moneta Regis' denier from a hoard found northwest of the Lake of Tiberias (Photo: Clara Amit, IAA). © IAA and his predecessor Fulk IV as counts of Anjou in France between 1060 and 1129.[43] The main royal series struck during the twelfth century were the 'Tower of David' denier of Baldwin III (1143–1163) and the Holy Sepulcher denier of his brother and successor Amaury I (1163–1173) (Figure II.9.9). Both coins portrayed highly symbolic types to legitimize the new Jerusalem royal dynasty by associating it with the biblical kings of Israel and their patronage over the holiest shrine of Christendom. And both series were minted in profuse numbers, numbering in the tens of millions, particularly the Holy Sepulcher series, which continued to be minted by Amaury's successors until the demise of the First kingdom in 1187.[44] Deniers and

---

[42] These coins have been previously associated with the military orders as regents of the kingdom during the siege of Acre in 1191. Subsequently, based on stray finds of two hoards with northern provenances, they were thought to have been a local type minted by the Commune of Acre in 1231–1243, or the bishops of Acre during the first half of the twelfth century. The presence of these coins in a small hoard excavated at Beth She'an securely dated stratigraphically, as well as

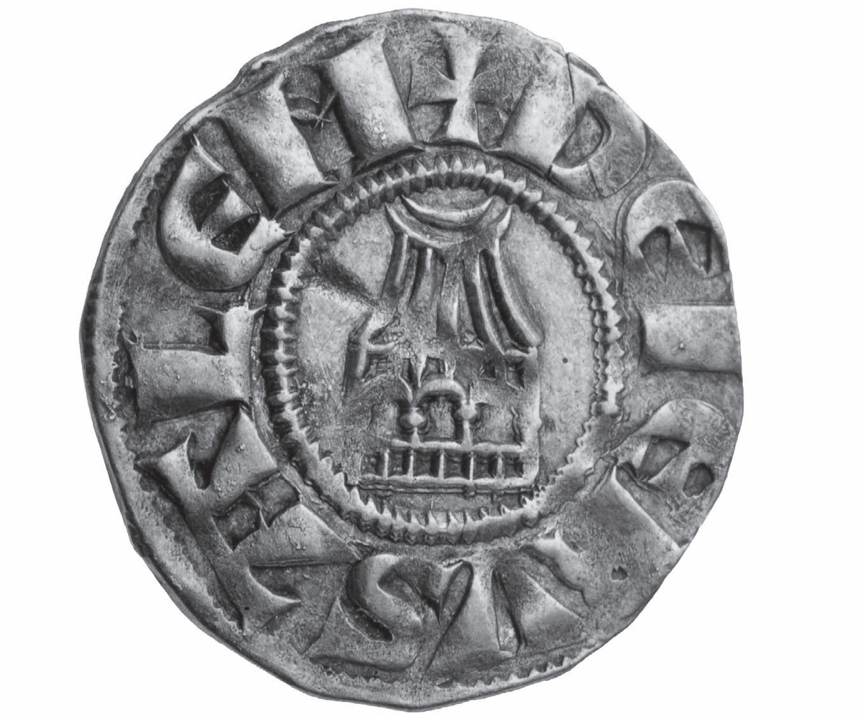


Figure II.9.9 Holy Sepulcher denier of Amaury I, excavated at the medieval 'Tower of David' citadel, Old City of Jerusalem, in 1935 (Photo: Clara Amit, IAA). © IAA

---

numismatically (it contained coins usually associated with the First Crusade and its aftermath), to the first half of the twelfth century could well predate the royal type of Baldwin III and Amaury. Other evidence for an early dating is the existence of similar early Moneta-type copper denier (1137–1152) issued in the County of Tripoli.

[43] See Barrie J. Cook, "En Monnaie Aiant Cours: The Monetary System of the Angevin Empire," in *Coinage and History in the North Sea World, c.* AD *500–1250*: *Essays in Honor of Marion Archibald*, eds. Barrie Cook and Marion Archibald (Leiden, 2006), 631–632.

[44] Kool, *The Use of Coinage*, 200–201.

oboles (half deniers) of the 'Tower of David' coinage consist of two main groups, a 'rough' series with a more careless worked imagery and irregular lettering, and a 'smooth' series with regular lettering and imagery.[45] Metcalf hypothesized that these groups represent two mints but did not give a final answer. He also noted that the coins' inscription DE IЄRVSALЄM did not 'automatically' imply they were minted in Jerusalem, suggesting they could have been struck at Acre or Tyre.[46] New research on the distribution of provenanced coins does not contribute to a substantial clearer understanding about the location of mints of or workshops, though it is seems possible that Baldwin's III 'Tower of David' deniers and oboles were minted in workshops in Jerusalem, as their numbers excavated in Jerusalem is considerable, almost a third of all finds registered in Israel, considering the usual dearth of such coins coming out of excavations.[47] What is clear is that both the geographical distribution and number of a 'rough', less regular struck group of coins, is considerably more limited compared with the more 'smooth'-looking types, the former numbering only 25% of all provenanced Baldwin types in Israel. Also, the number of 'rough' oboles is significantly smaller, by a factor of 10. All this seems to indicate that the 'rough' series constituted an earlier series, but if this was a separate mint is unclear.

The Holy Sepulcher denier of Amaury and his successors was struck in far greater numbers over a period of barely two decades. Metcalf suggested the existence of three mints: Jerusalem, Acre and Tyre. This was based on a detailed analysis of less than 100 coins from two hoards, one of which was of questionable provenance. Metcalf registered some 15 sub-series, all related to three mints.[48] Recently however, a study of c. 500 provenanced coins from more than 60 registered sites in the heartland of the kingdom – many of them excavations – show that during a two-decade period or more, die-makers in the Latin kingdom produced at least six main types of the regular heavy royal denier.[49] These six types further divided into numerous sub-types, a fact unnoticed by previous researchers – we registered at least 41 basic sub-types with at least 100 or more related sub-types.[50] Nevertheless, the frequency of a small number of dominant types was clear, which could indicate the existence of a small number of very productive mints or workshops, although the geographical distribution of the coins did not give a clear clue as to where these could have been situated.[51] The large numbers of sub-variants spread throughout the kingdom point to the massive circulation of these coins. More important for us they indicate a particularly large number of dies and possibly a considerable group of minters in workshops involved in producing these coins. Though, at present, the nature and number of mints producing billon coinage in the Kingdom of Jerusalem remains a matter of speculation, the previous data seem to disavow the possibility of a single mint proposed previously.[52] Also, there is no hard 'archaeological' evidence to suggest that the aforementioned types were minted in Jerusalem, Acre and Tyre alone.[53] Wherever these coins were minted, the relative stable weight and alloy of these royal billon series during the twelfth century does show that the kings of Jerusalem exercised relatively strict control over their coinage even to the exclusion of other coinages, both from the northern principalities and western coinages.[54] After the debacle of Hattin (1187), during the 1180s–1220s two main series of royal billon continued to be minted. A smaller, poor-looking, immobilized Holy Sepulcher denier struck on a lower weight standard, presumably at Acre under Henry of Champagne (1192–1197) and Aimery (1198–1205);[55] and a regular-struck denier struck in the name of John of Brienne celebrating the conquest of the town of Damiata at the Niles's eastern distributary during 1219–1221 CE.[56] If the latter coin was minted indeed at Damiata, as the reverse legend of the coin suggests, between 1219 and 1221, or struck at Acre solely commemorating the event of city's surrender to John of Brienne, is a question that still needs answering. Metcalf thought the latter possibility 'implausible', but substantial provenanced finds of these DAMIATA denier in a dozen or more sites throughout the kingdom and in hoards of the northern principalities of Tripoli and Antioch, and the total absence of these coins in the Egyptian Delta seems now to weigh in favor of this argument. The existence of different mints or workshops can be read in a number of coinages showing different fabric and dies, legends, mintmarks and style of bust of the king (e.g. DAMIЄTΛ̅ versus DAMIA̅TA̅), but again nothing substantial can be proven here at present, beyond noticing the different varieties.

---

[45] Both series divided into subgroups according to a detailed typological variant analysis of the large Bourgey hoard (855 billon deniers): a 'rough' type group of four subseries and a larger 'smooth' type divide into five subseries. See David M. Metcalf, "Coinage of the Latin Kingdom of Jerusalem in the name of Baudouin," *Numismatic Chronicle*, 7th series, 18 (1978), 71–84.

[46] Metcalf, *Crusades*, 54.

[47] Unpublished research data of the author.

[48] Metcalf, "The Tell Jemmeh Hoard and the Classification of the Early Amalricus Deniers," *Numismatic Chronicle* 147 (1987), 84–92; Metcalf, *Crusades*, 62–65.

[49] Kool, *The Use of Coinage*, 200–202.

[50] Ibid, 140.

[51] Ibid, 185.

Contemporary minting tradition in the West and East

At this juncture further micro-classification of the coins or further reviewing the aforementioned 'minting' documents from the Frankish East will not produce a clearer understanding of how coins were minted in the Latin states. What we do have is some important prosopographical information scattered in the hundreds of surviving charters documenting life in the Frankish East, of a group of men serving as *monetarii* or 'minters' and associated occupations, money exchangers and goldsmiths. To appreciate the significance and contextualize this evidence, it is imperative to sketch first the contemporary mint and minting traditions in the medieval West and in the Mediterranean East, in Byzantium and the surrounding Islamic states. In terms of the coin evidence, I have mostly concentrated on the Kingdom of Jerusalem and its gold and billon coinages during the twelfth and thirteenth centuries, but the model suggested here also has relevance to the other Frankish states and mints that produced coinages during this period.

---

[52] Dan Barag, "A Hoard of Amalricus I Deniers from the Vicinity of Bethlehem," *Israel Numismatic Journal* 17 (2009–2010), 245.

[53] Kool, *The Use of Coinage*, 201.

[54] Ibid., 175–180.

[55] Metcalf, *Crusades*, 66–67.

[56] Ibid, 80–85.

Medieval Europe: monetarii and moneta

For much of the Middle Ages until the end of the thirteenth-century coins in Western Europe were struck by independent 'moneyers', local craftsmen usually engaged in (precious) metalworking like goldsmiths or blacksmithing. These moneyers or *monetarii* struck coins in their own 'private' workshops at a great number of locations under some sort of royal supervision, but this varied considerably from location and from period to period.

Under the Merovingian and Anglo-Saxon kings (sixth–eighth centuries) names of *monetarii* appearing on coins show that hundreds of moneyers were active during this period.[57] These urban-based 'moneyers', were employed by lords, local bishops or towns minting coins at hundreds of, often small, locations at estates and manors.[58] The kings issued administrative provisions on minting, weights of coins and alloy, but the production of coinage was in essence 'private', leaving much room for the introduction of different designs, moneyers and mint names and changing fineness. With his introduction of the silver denier Charlemagne tried to establish a more centralized unified royal money system.[59] In practice, though under him and his successors coins continued to be struck at some 150 mints between the Loire and the Rhine. Royal capitularies tried to unsuccessfully limit the number of mints during the ninth century, but local need for money or the availability of silver ore facilitated the continuing existence of semi-independent mints during this period.[60] A geographical analysis of the mint names on the coins showed minting was not associated with the royal household but with nearby silver mines or commercial emporia.

In late eleventh–twelfth-century Europe, around the time of the First Crusade and the establishment of the Frankish states in the East, minting coins continued to be done privately by *monetarii*, skilled craftsmen specializing in metalwork, who developed into an influential hereditary wealthy (urban) oligarchy monopolizing minting and the exchange of money.[61] The status of and the manner in which these *monetarii* worked evolved in different ways, depending on the political system that evolved in the regions of Continental Europe and England. For most of continent the breakup of central royal authority meant that *moneta*, the *right* to mint, was often simply usurped by local lay and ecclesiastical lords. These in turn conceded minting rights to lesser vassals and lords.[62] In these mints they employed local craftsmen or hired experienced moneyers to produce the coinage they needed (Figure II.9.10). These coins were produced in workshops

---

[57] Philip Grierson and Mark Blackburn, *Medieval European Coinage with a Catalogue of the Coins in the Fitzwilliam Museum, Cambridge* I: *The Early Middle Ages (5th – 10th Centuries)* (Cambridge, 1986), 97–99; Rory Naismith, *Money and Power in Anglo-Saxon England: The Southern English Kingdoms, 757–865* (Cambridge, 2011), 128–155. See also Jeremy Percy, *The Moneyers of England, 973–1086*: *Labour Organisation in the Late Anglo-Saxon and Early Anglo-Norman English Mints* (Oxford, 2018).

[58] Maurice Prou, "Les ateliers monétaires mérovingiens," *Revue Numismatique* 6 (1888), 542–550.

[59] Grierson and Blackburn, *Medieval European Coinage*, 194–196.

[60] Royal ordinances, such as *de falsis monetis* (805; 808), directed that minting should be limited to the royal palatium. The Capitulary of Pitres (864) designated nine mints and the palace.

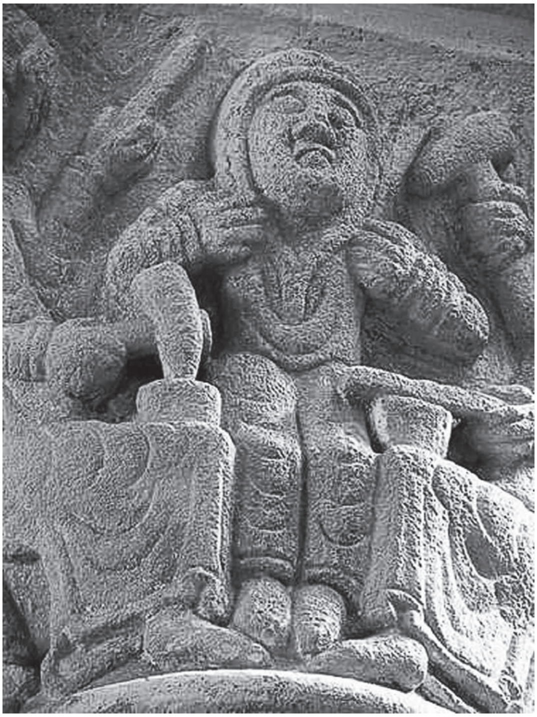


Figure II.9.10 'The moneyers capital', Cluniac Priory of Souvigny, eleventh–twelfth century (Photo: Lucien Martinot) © Lucien Martinot, webmaster du site art-roman.net located in towns, abbeys, castles and towers and also smaller settlements, all depending on the availability of mint masters.[63] Thus, money minted in a centralized royal establishment by moneyers that were royal officials controlled by the king and his court did not exist in Western Europe until well into the second half of the thirteenth century.

---

[61] Robert S. Lopez, "An Aristocracy of Money in the Early Middle Ages," *Speculum* 28/1 (1953), 4; Marc Bompaire, "Lieux de monnaie et ateliers monétaires dans la France médiévale," in '*I LUOGHI DELLA MONETA Le sedi delle zecche dall'antichita all'eta moderna Convegno internazionale, Milano – Universita degli Studi – 22/23 ottobre 1999* (Milan, 2001), 89.

[62] Often, the transfer of such secondary minting rights included limiting the original rights, for example, by division of the revenues of the mint or prescribing to its new lords to continue to mint the

In France contemporaries of the twelfth-century royal rulers in Jerusalem, Louis VI (1108–1137) and Louis VII (1137–1180), issued coins that could hardly be called royal since they were indistinguishable from a multitude of 'feudal' coinages produced by moneyers for greater and smaller lords.[64] Royal authority to control minting within the kingdom only began during the reign of Philip Augustus (1180–1223) with the king taking control of workshops.[65] The adoption of a recognizable royal 'chatel' type on the coins occurred relatively late, in the second decade of the thirteenth century.[66] Finally, legislation enabling French kings superior and sovereign minting rights within the entire kingdom were only introduced under Louis IX in 1263, at least some hundred years later than under the Jerusalem kings.[67]

A comparable situation existed in Germany, under the Salian and Hohenstaufen king-emperors. There minting coinages was fragmented among more than 400 mints, many controlled by numerous ecclesiastical and lay lords.[68] Under Frederick I Barbarossa (1152–1180), contemporary of kings Baldwin III and Amaury I of Jerusalem, the number of royal-controlled mints was considerably expanded from only nine 'royal' mints in 1152 to 26 highly productive mints in 1189. But, also in imperial Germany during this period no recognizable supra regional 'imperial' coinage, of uniform weight, design and fineness existed. Royal-controlled issues only constituted a mere 13% of the more than 200 mints that produced coins between 1140 and 1197 in the *Regnum Teutonicum*.[69] Like in France there were supra-regional seigniorial mints, like the ones controlled by the Margrave of Meissen or the archbishop of Cologne with access to the rich silver mines of Freiberg

---

same 'type arrestée' of coins; see Marc Bompaire and Francois Dumas, *Numismatique Médiévale* (Turnhout, 2000), 394–396.

[63] Bompaire, "Lieux de monnaie," 88–90.

[64] No royal type in the conventional sense existed: the royal title was not exclusive to royal issues but appeared also on many 'feudal' deniers. No separate royal coin imagery existed: both 'royal' and feudal issues followed the same local immobilized mint type traditions, depicting monograms and derivatives of the *Christiana Religio* temple type. See Jean Duplessy, *Les Monnaies Françaises Royales de Hugues Capet A Louis XVI (987–1793)* (Paris, 1988), 46–67.

[65] Francois Dumas, "La monnaie dans le royaume au temps de Phillipe Auguste," in *La France de Phillipe August, actes du colloque international*, *Paris*, *29 septembre – 4 octobre 1980* (Paris, 1983), 543–574.

[66] Jean Duplessy, *Les Trésors monétaires médiévaux et modernes découverts en France* (Paris, 1985), 151–158.

[67] Bompaire and Dumas, *Numismatique Médiévale*, 400–403.

[68] Thomas Lautz, *Brakteaten*: *Münzkunst der Stauferzeit* (Köln, 1986), 5–6; Bernard Kluge, *Numismatik des Mittelalters* (Vienna, 2007), 98–99.

[69] Elisabeth Nau, "Münzen der Stauferzeit," in *Die Zeit der Staufer: Geschichte – Kunst – Kultur. Katalog der Ausstellung*, ed. Reiner Hausherr. Band I–II (Stuttgart, 1977), 89.

in Saxony, which were far more important than any contemporary imperial/royal mint during the 1160s–1170s.[70]

Though England was among the most central administered of the feudal kingdoms in Europe, centralized mint facilities or *domūs monete*, where moneyers worked, were only introduced in the 1180s, when the First Kingdom of Jerusalem ceased to exist. Up to this period minting was decentralized, performed by local craftsmen and entrepreneurs, often high-ranking urban citizens who paid a fee for the dies they received from the king and the privilege of minting. Thus, coins were produced privately in many small workshops in towns and smaller urban centers throughout the kingdom,[71] but this was done under royal control regulating the design of the dies and the quality of the silver. By the time of the Norman Conquest in 1066 there were some 177 moneyers who also functioned as money changers active in 68 'mints' or workshops. These numbers were reduced substantially from 1158 onwards by Henry II when growing royal intervention led to a decline by more than half of the number of active moneyers and workshops.[72] By the early thirteenth century minting had become professionalized in veritable 'mint factories' located in three cities, London, Canterbury and Bury St. Edmunds. Like on the continent the Domesday surveys and Pipe rolls also showed that these moneyers were mostly burgesses, high-ranking urban citizens.[73]

Mints in the East – Byzantine empire

In contrast to Western Europe, in the East, the mints of the Byzantine empire formed part of a rigorous centralistic monetary system that had evolved over more than 800 years until 1204, when Constantinople was conquered during the Fourth Crusade. In previous centuries it had consisted of a system of between six and 14 provincial mints located in different cities through the empire. By the eleventh and twelfth/early thirteenth centuries, at the time of the Crusades, minting was mostly concentrated in Constantinople, the capital of the empire.[74] Minting coinages was almost completely controlled by the emperor and his court. The main imperial mint or *charage* had the monopoly on striking gold and silver coins under the supervision of an imperial court official, the *prokathemenos tau vestiariou*. It also struck copper denominations for the empire-wide taxation/fiscal system.[75] Also its location showed the imperial character of minting procedures in medieval Byzantium during this period. The mint was located together with the other chief monetary institutions, such as the public and imperial treasuries or *vestiarion*[76] since 969 within a fortified section of the imperial Great Palace complex, standing between the Hagia Sophia and the Hippodrome at the southern end of the city (Figure II.9.11).[77] Excavations in the 1930s–1950s discovered here remains of mint refuse, fragments of crucible, tripods, a large quantity of trimmings, shearing of metal blanks and plates together with contemporary ceramics of the tenth–twelfth centuries.[78] Its organization was highly specialized, echoing the factory system to produce coinages of earlier Roman and Byzantine periods.[79] There were groups of *officinae* or workshops responsible for minting different denominations, utilizing separate markings for controlling weight and metal content of its coins. Sources of the eleventh–twelfth centuries show that the entire work procedure associated with a well-organized 'industrial size' state mint was done within the palace grounds: washing and smelting of the gold, the foundry place and even a separate area where the portrait of the emperor was minted, as well as the storage of coined money and raw materials.[80] The lower ranks of the mint were staffed with artisans who were residents of city and pressed into service.[81]

---

[70] Philip of Heinsberg, archbishop of Cologne minted during the 1170s a minimum of 2 million 'heavy' pfennigs (1.4 g) a year. See Walter Haevernick, *Die Münze von Köln Die Königlichen und erzbischöflichen Prägungen der Münzstätte Köln, sowie die Prägungen der Münzstätte in des Erzstifts Köln, Vom Beginn der Prägung bis 1304* (Koeln, 1935).

[71] The Winton Domesday (c. 1110) and a later survey of 1148 show that in Winchester mint workshops clustered together along the main High Street and not within the precincts of the royal palace. In the town at least five mint workshops (monete) and 18 forges (forgiae) were located, as well as many houses of moneyers active in the town. See David M. Metcalf, "The Premises of Early Medieval Mints: The Case of Eleventh-Century Winchester," in '*I LUOGHI DELLA MONETA*, 59–68.

[72] During Henri II's 'Cross and Crosslets' coinage (1158–1180), the coins carried 65 names of moneyers, half of which were now Norman French. See Martin Allen, *Mints and Money in Medieval England* (Cambridge, 2012), 15.

[73] Allen, *Mints and Money*, 64–65.

[74] Several provincial mints were active on a minor scale at different periods (Thessalonica, Philippopolis). See Michael Hendy, *Catalogue of the Byzantine Coins in the Dumbarton Oaks Collection*

---

and in the Whittemore Collection (IV/1, Alexius I to Alexius V, 1081–1204) (Washington, DC, 1999) (= DOC 4/1), 128.

[75] This system involved the enforced payment of precious metal by provincial governors in fulfilling annual (or biannual) tax obligations to the state in return of base metal. See DOC 4/1: 25; 99.

[76] "Of the treasure that was found in that palace I cannot well speak, for there was so much that it was beyond end or counting." See Geoffrey de Villehardouin, *Memoirs* or *Chronicle of the Fourth Crusade and the Conquest of Constantinople*, trans. Frank T. Marzials (London, 1908), 65. www.gutenberg.org/files/6032/6032-h/6032-h.htm, accessed 15/02/2021.

[77] The palace remained the seat of government, and the financial administration buildings remained outside the fortified Boukeleon palace. See Paul Magdalino, "Court and Capital in Byzantium," in *Royal Courts in Dynastic States and Empires*: *A Global Perspective*, eds. Jeroen Duindam, Tülay Artan and Metin Kunt (Brill, 2011), 139–140. In the late eleventh century the Byzantine court had moved to the Blachernae palace in the reign of Alexios I Komnenos in the northwestern part of the city. See Paul Magdalino, "Manuel Komnenos and the Great Palace," *Byzantine and Modern Greek Studies* 4 (1978), 101–114.

[78] Cecile Morisson, "Moneta, Kharage, Zecca: Les Ateliers Byzantins et le palais imperial," in '*I LUOGHI DELLA MONETA*, 51–52.

[79] Lopez, "An Aristocracy of Money," 7–8.

[80] Michael F. Hendy, *Studies in the Byzantine Monetary Economy, c. 300–1450* (Cambridge, 1985), 225; The Byzantine chronicler Choniatēs related how in 1185 the crowds invading the palace grounds and "seized as plunder all the money they found still stored in the Chrysioplysia mint (besides the raw metals which had not been coined, there were twelve hundred pounds of gold, three thousand pounds of silver, and twenty thousand pounds of copper coins)". See Niketas Choniatēs, *O City of Byzantium*: *Annals of Niketas Choniatēs*, trans. Harry J. Magoulias (Detroit, 1984), 191.

[81] DOC 4/1:97.

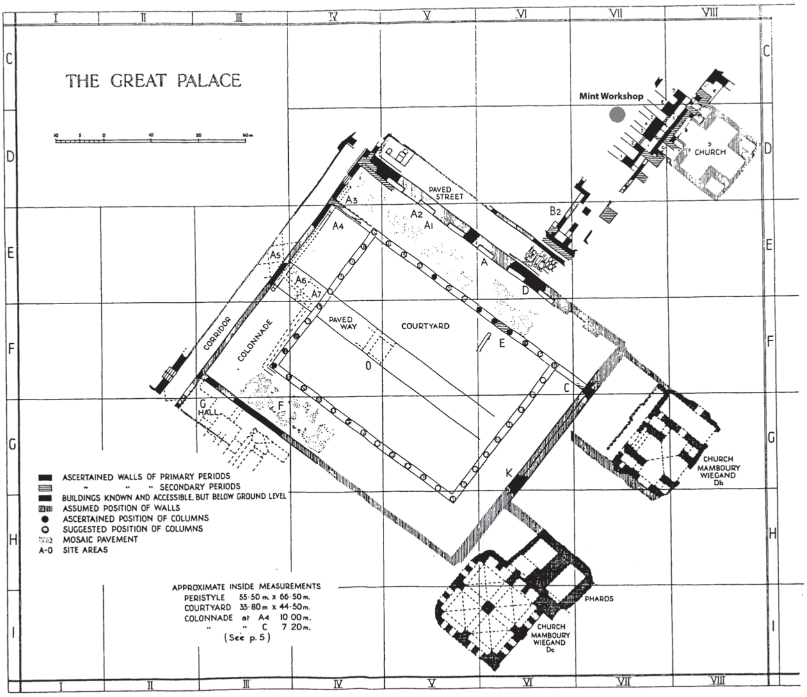

THE GREAT PALACE
Mint Workshop
CHURCH
PAVED STREET
A1
A2
A3
A4
A5
A6
A7
A
B2
C
D
E
F
G HALL
K
O
CORRIDOR
COLONNADE
PAVED WAY
COURTYARD
CHURCH MAMBOURY WIEGAND Db
PHAROS
CHURCH MAMBOURY WIEGAND Dc
ASCERTAINED WALLS OF PRIMARY PERIODS
" " " SECONDARY PERIODS
BUILDINGS KNOWN AND ACCESSIBLE, BUT BELOW GROUND LEVEL
ASSUMED POSITION OF WALLS
ASCERTAINED POSITION OF COLUMNS
SUGGESTED POSITION OF COLUMNS
MOSAIC PAVEMENT
A-O SITE AREAS
APPROXIMATE INSIDE MEASUREMENTS
PERISTYLE 55·50 m. x 66·50 m.
COURTYARD 33·80 m x 44·50 m.
COLONNADE at A4 10·00 m.
" " C 7 20 m.
(See p. 5)
I
II
III
IV
V
VI
VII
VIII
C
D
E
F
G
H
I

Figure II.9.11 Byzantine imperial mint in the Boukoleon palace, Constantinople, late tenth–twelfth centuries (adaptation by author) [after Gerard Brett, Guenter Martiny, and Robert B.K. Stevenson, *The Great Palace of the Byzantine emperors* (London, 1947)]. © R. Kool

Together with the main palatine mint there were two secondary mints that served the capital and its immediate region.[82] These were supplied with bullion by foreign merchants doing trade in the city or private individuals for the production of money used in small daily transactions, billon *trachea* and copper *folles*.[83] These mints were located not far from the aforementioned imperial mint, in the 'exchange' within the Forum of Constantine, along the stalls of the bankers (*trapezitai*) and the silversmiths (*argyropratai*) and adjacent to the church of St. Mocius.[84] Clearly once more we see the intimate connection between money changers, gold and silversmithing and mints. Presumably, this mint of the 'exchange' located in the city's central square was destroyed or damaged in the great fire that burned down the Forum of Constantine in August 1203.[85]

---

[82] DOC 4/1:25.

[83] DOC 4:22 refers to Constantine Porphyrogennetos, *The Book of Ceremonies* (Brill, 2012), 11; 105 where a mint is twice mentioned in a description of an imperial procession to the church of St. Mocius.

[84] Robert de Clari's account of the Fourth Crusade mentioned a 'cange' or exchange at the Forum of Constantine. See Robert de Clari, *La Conquête de Constantinople*, ed. Philippe Lauer (Paris, 1956), 88–89.

Mints in the East – Fatimid empire

Likewise, in the neighboring Islamic states, *Sikka*, the right to strike and inscribe coins was a monopoly usually strictly controlled by its rulers. Along with citing the ruler's name in the Friday prayers – the *khutba* – the appearance of the name of the ruler on the coin together with the ruling Sunni caliph, or in the case of Shiite dynasties like the Fatimids as Caliph-Imam, was an important source of his legitimacy. As a rule, Islamic mints during most of the Crusader presence in the East were under the supervision of state officials and minting coins was unlike in the West, not farmed out until the Mamluk period, after the 1250s. Crusaders arriving from the West and rulers and inhabitants of the Crusader states in the twelfth and thirteenth centuries did not encounter a monetary wasteland when they arrived in the East but a highly sophisticated system of mints and minting traditions, producing gold and silver coins in the surrounding Egyptian and Syrian Fatimid and Ayyubid empires.

In Egypt, the mint formed part of its highly centralized financial and tax administration from the middle of the tenth century.[86] Minting there seems to have inherited many traits of the centralized factory mint traditions of the Roman and Byzantine empires. The mint and its staff were at first located in Fustat, the empire's commercial capital, in the Dar al Imara, the 'govenor's palace' complex, near the al-Tulunid mosque where officials associated with tax and finances where concentrated. Coin evidence shows that during the reign of Fatimid caliph al-Azīz (975–996 CE) Misr, the official mint of Fustat was adjoined by a new mint in the garrison/palace city of Al-Qahirah, built north of the city by the Fatimids around their court (Figure II.9.12).[87] This mint continued to function under Azīz's son and

---

[85] Robert de Clari, *La Conquête*, "the Exchange, which was wont erstwhile to be full of wealth; for there were wont to sit the rich money-changers, having before them great mountains of bezants and of precious stones, ere yet the city was taken. But there were not so many of them there now that the city was taken."

[86] For a detailed account see H. Rabie, *The Financial System of Egypt* AH 564–741/Ad 1169–1341 (London, 1980).

[87] Al-Qahirah al-Maḥrūsah, "Cairo the Guarded," *Nicol* (2006: 89, No.698; No. 1067) mentioned two coins with this mint name, a half dirham minted in 384AH/994/5 CE and a dinar minted by Al-Hakim in 394AH/1003/4 CE, suggesting these issues celebrated the commencement and completion of the walls of Cairo. A similar dinar of 394AH was found in a large hoard of Fatimid dinars and quarter dinars excavated from the floor of the ancient harbor of Caesarea (unpublished; for a preliminary publication of the hoard see Robert Kool, Issa Baidoun and Yaakov Sharvit, "The Fatimid Gold Treasure from the Caesarea Maritima Harbor (2015): Preliminary Results," in *Polymnia: numismatica antica e medieval Studi 12:"5th Simone Assemani Symposium on Islamic*

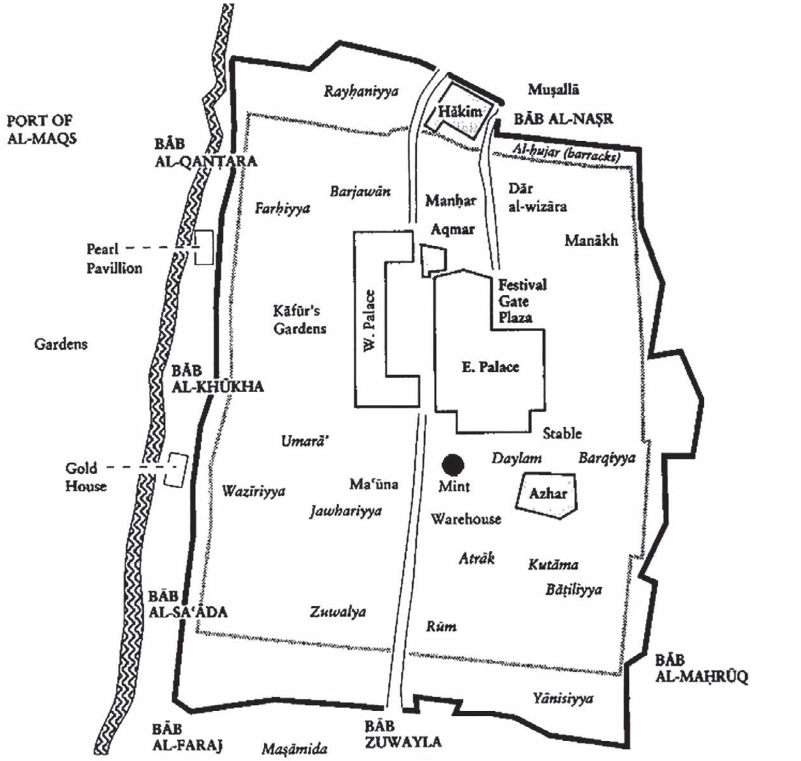

Rayḥaniyya
Muṣallā
Ḥākim
BĀB AL-NAṢR
PORT OF
AL-MAQS
BĀB
AL-QANṬARA
Al-ḥujar (barracks)
Barjawān
Farḥiyya
Manḥar
Dār
al-wizāra
Aqmar
Manākh
Pearl
Pavillion
Festival
Gate
Plaza
Kāfūr's
Gardens
W. Palace
Gardens
E. Palace
BĀB
AL-KHŪKHA
Stable
Umarā'
Daylam
Barqiyya
Gold
House
Waziriyya
Ma'ūna
Mint
Azhar
Jawhariyya
Warehouse
Atrāk
Kutāma
Bāṭiliyya
BĀB
AL-SA'ĀDA
Zuwalya
Rūm
BĀB
AL-MAḤRŪQ
Yānisiyya
BĀB
AL-FARAJ
Maṣāmida
BĀB
ZUWAYLA

Figure II.9.12 Fatimid mint in the palace-city at al-Qahirah, Egypt, eleventh–twelfth centuries (adaptation by author). © R. Kool

successor. In 1122 the Fatimid caliph Al-Āmir rebuilt and expanded the mint in Cairo, now located in a building later named after him, the al-dar al-Amiriyya, 'the house of al-Amir' located near the al-Azhar mosque.[88] This mint also functioned as an exchange, turning the palace-city into a new commercial center.[89] The older Misr/Fustat mint remained important until the fire that destroyed large parts of

---

coins. Rome, 29–30 September 2017, eds. Bruno Callegher and Arianna D'Ottone Rambach, EUT Edizioni Università di Trieste (Trieste, 2018), 127–144.

[88] Helen Brown, "The Medieval Mint of Cairo: Some Aspects of Mint Organization and Administration," *Later Medieval Mints: Organisation, Administration and Techniques. The Eigth Oxford Symposium on Coinage and Monetary History* (Oxford, 1988), 30. Possibly a dinar noted by Nicol, *Corpus*, p. 349, No.2559 as minted in 'al-Mu'izziyah al Qahira', the palace mint of al-Mu'izz in 518AH/1124 CE referred to the coins minted in this new mint establishment.

[89] Michael Brett, *The Fatimid Empire* (Edinburgh, 2017), 254.

Fustat in 1168. With the Ayyubid takeover of Egypt the palace-city mint of Cairo became the main mint in Egypt, with Saladin constructing a new mint next to the one of Al-Āmir.[90]

During the earlier Fatimid period important religious officials like the chief qadi and his representatives had the overall responsibility for minting coinages, checking the alloys and auditing mint accounts.[91] Under later Fatimid and Ayyubid rulers the mint was organized along strict lines with a sophisticated division of labor. It was headed by a mint official, the *musharif dar ad-darb*, 'controller of the mint', who received instruction directly from the Vizier, the head of government. The mint stood under the authority of the 'Bab', a subsection of the department of finances, the *diwan al-mal*. Income of the state from the mint was based on a fixed amount (3–5%) of the money struck, which varied with the quantity of bullion minted into coin. The *musharif* was responsible for the day-to-day control of the mint, including stock of bullion, coin dies, instruments and standards and all accounts. Operation of the mint was directed by a master minter, the *mutawali al-darb*, and in the mint a whole range of manual workers and administrative staff (*shahid*, evaluator of bullion, *nagqqash*, engraver, *muqqadam*, *sabbakun* and *darrabun* who carried out the actual technical operation of the mint.) Medieval Islamic mint manuals like the *Kasf al-asrar al-'ilmiya bi-dar ad-darb al-misriya* – a detailed manual for minters at the Ayyubid mint, which also reflected conditions in the earlier twelfth-century Fatimid mint, show an extremely well-organized mint whose members possessed extremely detailed knowledge of metallurgy and mint techniques for precious metals.[92] Money changers, copper and goldsmiths and alchemists – the latter functioning as official money assayers were probably located in nearby quarters and formed part of the artisans from which mint workers were drawn.[93] These skilled workers sometimes worked apparently on a semi-independent basis, working for a margin of profit – much like medieval *monetarii* in the West. Among them were Jews, as a responsa by the famous rabbi Maimonides, discovered among the Geniza documents, showed.[94] The Fatimid system also included a substantial number of auxiliary mints that served also more distant areas throughout the Fatimid-ruled empire. In Syria seven mints produced coins during a period of almost 100 years. These minted gold dinars and fractions as well as silver dirhams. The simultaneous production of identical gold and silver types in so many cities throughout the empire seems to imply some sort of rationalization of production through official mint establishments in these cities, possibly the sending of centrally produced dies or sending out die-cutters to these places. The minting of gold and silver denominations during the Fatimid period, preceding the Frankish occupation, was definitely not a sporadic isolated process but considering the huge number of coins struck during this period was supposedly a highly integrated and sophisticated enterprise. It must have consisted of a semi-centralized highly skilled system of mints, organized in separate buildings adjoining either the commercial or administrative centers, like in Fustat-Cairo, and manned by professional minters and associated skilled laborers in the urban environment of the Fatimid and Ayyubid state.[95]

---

[90] Brown, "Medieval Mint," 30.

[91] Brett, *Fatimid Empire*, 103.

[92] Ibn Ba'ra, *Kashf al-Asrãr al-llmiya bi-Dãr al- Darb al-Misriya*, ed. 'Abd al- Rahmãn Fahmï (Cairo, 1966); for translated excerpts about technical details of the mint see Andrew S. Ehrenkreutz, "Extracts from the Technical Manual on the Ayyubid Mint in Cairo," *Bulletin of the School of Oriental and Asian Studies* 15/3 (1953), 423–447.

[93] Shlomo D. Goitein, *A Mediterranean Society. The Jewish Communities of the Arab World as Portrayed in the Documents of the Cairo Geniza. I. Economic Foundations* (Berkeley, 1967), 83. Members of a craft were normally concentrated in one urban area in Fustat, Damascus and other cities; a money changers address was the 'street of the Coppersmiths'; and the 'street of the Alchemists' [al-kimiyyin] was the seat of authorized money assayers [al-naqqadin] (1081 c.).

[94] See Goitein, *Mediterranean Society*, 82; Goitein though thought the mint was not organized as an industrial plant but rather around skilled laborers who worked there on their own account; see also Goitein *Mediterranean Society*, 365 = *appendix C, No.15 Maimonides Responsa, I, 128*, 1165–1204: two workers in the Caliphal mint formed a partnership. The senior made the accounts for both and received ¾ of the profit. When he paid his junior partner without rendering account Maimonides decided he was obliged to do so.

Moneyers, money changers and goldsmiths in the Latin East

Among the more than 1,500 charters, documents and letters from the Frankish Levant – published more than 120 years ago by Reinhold Röhricht in the *Regesta regni Hierosolymitani,* revised and expanded recently in an electronic edition, there are some 63 documents mentioning 41 persons with a variety of occupational bynames associated with minting and exchanging money[96] (Table 9.1).

Virtually all of these appear in attached witness lists of charters dated between 1125 and 1286. These carry Latin or medieval French bynames associated with minting, like *Moneta*, *Monetro*, *de Monee* and *Moinetre*, or have bynames associated with money exchanging, like *Cambiator*, *Campsor* and *numularius*. Cross-referencing shows these occupations also often intermingled with goldsmithing, *aurifex*, *aurifaber*, in the Latin East and ordinary metal smithing. Such craftsmen specializing in forging metals possessed the necessary technical know-how to produce gold and silver coins, as previously mentioned in the medieval West and East.[97]

---

[95] The location of a mint, within the Treasury next to the main mosque and palace, housing also other departments was a template early adapted by the Fatimid rulers like al-Mahdī billāh (910–932) in his new capital in Mahdīyya. See Brett, *Fatimid Empire*, 41–44.

[96] Reinhold Röhricht, *Regesta regni Hierosolymitani*, 2 vols (Innsbruck, 1893–1904) = *RRH*; for the revised electronic edition see: *RRR – Revised Regesta Regni Hierosolymitani Database*. http://crusades-regesta.com.

[97] Fulcus aurifex, 'the goldmith', appeared together as witness with Herbertus numularius, 'the money changer' in a document dated 1143 that settled the rent of properties between the canons of the Holy Sepulchre and Arnulfus the Syrian in Jerusalem; see *Cart St-Sép*, 164–165, no. 68 (*RRH* 223/*RRR* 420). This same Fulcus or Fulco appeared also together with six other men designated as *omnes isti aurifabri*, "all of these are goldsmiths", to the sale of house by a burgess couple, Bernardus and Haoisa, to the canons of the Holy Sepulchre for 200 besants; see *Cart St-Sép*, 167–168, no. 70 (*RRH* 154/*RRR* 330).

Table 9.1 List of moneyers, moneychangers and (gold)smiths in the Latin East (1099–1291)

Name	*Byname*	*Profession*	*Year*	*Location*	*RRH*	*RRR*
	Cambii	money changers	1118	Jerusalem		169
Brunet	cambiator	money changer	1125	Jerusalem	110	227
Petrus	faber	smith	1125	Jerusalem	110	227
Radulfus	faber	smith	1125	Jerusalem	110	227
Willelmus	faber	smith	1125	Jerusalem	108	246
Aldeburga	soror Lamberti cambiatoris	money changer	1129	Acre	130	276
Alfanus		money changer	1129	Jerusalem	130	276
Bernardus	aurifaber	goldsmith	1133	Jerusalem	146	314
Petrus	Petragora	goldsmith	1133	Jerusalem	146	314
Turstanus	Angelus	goldsmith	1133	Jerusalem	146	314
Umbertus	aurifaber	goldsmith	1133	Jerusalem	183	313
Umbertus	aurifaber	goldsmith	1133	Jerusalem	146	314
Bernardus	aurifaber	goldsmith	1135	Jerusalem	154	330
Fulco		goldsmith	1135	Jerusalem	154	330
Petrus	Petragora	goldsmith	1135	Jerusalem	158	339
Petrus	faber	goldsmith	1135	Jerusalem	154	330
Petrus	Petragora	goldsmith	1135	Jerusalem	154	330
Ricardus	faber	smith	1135	Caesarea?	159	337
Seibertus	Iudex	goldsmith	1135		154	330
Sinardus	Sivardus	goldsmith	1135	Jerusalem	154	330
Tustanus		goldsmith	1135	Jerusalem	154	330
Guillelmus	Bastardus	money changer	1138	Jerusalem	181	365
B.[aron?]	aurifex	goldsmith	1142	Tripoli	212	414
Fulcus	aurifex	goldsmith	1144	Jerusalem	223	420
Herbertus	numularius	money changer	1144	Jerusalem	223	420
Willelmus	Bastardus	money changer	1152	Jerusalem	278	524
Petrus	aurifex	goldsmith	1153	Acre	281	539
Aldeburga	soror Lamberti cambiatoris	money changer	1154	Acre	293	560
Alfanus		money changer	1154	Jerusalem	293	560
Arbertus	faber	smith	1156	Jerusalem	302	591
Jordanus	son of Petrus the aurifex	goldsmith	1156	Jerusalem	302	591
Petrus	Petragoricensis	goldsmith	1156	Jerusalem	302	591
Robertus	faber	smith	1156	Jerusalem	302	591
Umbertus	faber	smith	1156	Jerusalem	302	591
Lambertus	cambiator	Money changer	1157	Bethany	327	607
Uldredus	aurifex	goldsmith	1157	Jerusalem	329	609
Petrus	Peregort	goldsmith	1158	Jerusalem	335	618
Petrus	Petragora	goldsmith	1160	Jerusalem	273	664
Petrus	Petragora	goldsmith	1160	Jerusalem	343	642
Pisellus	aurifaber	goldsmith	1160	Jerusalem	343	642
Uldretus	aurifaber	goldsmith	1160	Jerusalem	343	642

Name	*Byname*	*Profession*	*Year*	*Location*	*RRH*	*RRR*
Petrus	Petragoricensis	goldsmith	1161	Jerusalem	365	678
Fulco	Moneta	moneyer	1163	Acre	458	854
Lambertus	cambiator	money changer	1163	Jerusalem	391	706
Guillelmus	Bastardus	right to settle money changer	1164	Jerusalem	400	733
-	cambiatores	money changer	1164	Jerusalem	400	733
Johannes	Moneta de Accon	mintmaster	1165	Acre	412	745
Fulco	aurifaber	goldsmith	1167	Jerusalem	431	771
Herbertus	cambiator	money changer	1167	Caesarea	432	776
Lambertus	cambiator	money changer	1167	Jerusalem	430	770
Petrus	faber	smith	1171	Jerusalem	492	866
Andrea	cambiator	money changer	1174	Antioch	511	934
Petrus	Moneta	moneyer	1175	Jerusalem	818	1587
Dames	cambiator	money changer	1179		589	1048
Johannes	Moneta	moneyer	1179	Tripoli	585	1039
Lambertus	cambiator	money changer	1179	Jerusalem	590	1047
Johannes	Moneta	moneyer	1181	Tripoli	605	1086
Johannes	Moneta	moneyer	1181	Tripoli	602	1073
Johannes	Moneta	moneyer	1182	Jerusalem? Caesarea	619	1107
Johannes	Moneta	moneyer	1182	Tripoli	620	1112
Johannes	Moneta	moneyer	1182	Tripoli	621	1113
Bernardus	Monetro	moneyer	1184	Tripoli	637	1143
Johannes	Moneta	moneyer	1184	Tripoli	637	1143
Johannes	Moneta	moneyer	1185	Tripoli	645	1165
Johannes	Moneta	moneyer	1187	Tripoli	662	1238
Theobaldus	aurifex	goldsmith	1187	Tyre	659	1232
Theobaldus	aurifex	goldsmith	1190	Tyre	691	1277
Johannes	Moneta	moneyer	1196	Tripoli	731	1375
Gilius	faber	smith	1198	Acre or Antioch	742	1408
Johannes	Moneta	moneyer	1198	Antioch	742	1408
Bernardus	Moneta	moneyer	1199	Antioch	758	1447
Johannes	Moneta	moneyer	1199	Tripoli	754	1440
Arnulfus	aurifex	goldsmith	1231	Acre	1026	2158
Reinerus	campsor	money changer	1232	Acre	1038a	2189
Guilielmus Cotenna de S. Gilio	campsor	money changer	1244	Acre	1122	2464
Guido	aurifaber	goldsmith	1245	Acre	1135	
Johannes	aurifaber	goldsmith	1249	Tyre	1184	
Thomas	faber	smith	1259	Tyre	1277	
Terricus	Moneta	moneyer	1264	Antioch	1333	
Antonius	faber	smith	1274	Ayas	1397	
Jacobus	faber	smith	1274	Ayas	1398	
Nicolai	de Monee	mintmaster	1274	Acre	1400	
Mainardus	aurifex	goldsmith	1286	Acre	1465	

The direct references to moneyers in the charters are few but provide us with valuable information about the presence of a group of minters active in the Frankish East. One of these moneyers, Iohannes, had a long and varied career judging from the dozen or more charters in which he appears. In the 1160s Iohannes was working as a moneyer in Acre during the same period Fulco de Moneta (see next) was active.[98] Fourteen years later he seems to have moved to the north, to Tripoli, where he was active until 1199.[99] In a number of the charters he seems to be connected to property transfers associated with the Pisan community in the Frankish East.[100] Could he have been a moneyer from northern Italy who had gone on crusade or emigrated to the East? Moneyers, compared to most craftsmen in medieval society, were unusually mobile, often itinerating to faraway places where their service was required.[101] Presumably, a considerable number of such *monetarii* with the expertise to produce the thin billon deniers, the hallmark of the European monetary economy, moved to the Frankish East. There setting up workshops traveling between the different cities and lords who required their services, they minted the tens of millions of billon deniers issued in the Kingdom of Jerusalem, Cyprus and in Tripoli and Antioch during the twelfth and thirteenth centuries. From surviving mint records from medieval England, we possess rare evidence of such a moneyer traveling to the Frankish East, Walter de Hee, a Canterbury moneyer who had retired in 1217 to take the cross as a Crusader.[102] Returning to Iohannes, he seems to have worked during the 1180s/90s, mostly in Tripoli judging by some 10 charters in which he appears as a witness, possibly involved in the production of the 'star deniers' minted in huge quantities under Raymond III of Tripoli and Bohemund IV. He seemed to have collaborated with another (north Italian?) minter, a *Bernardus Moneta* or *Monetro* both in Tripoli and possibly in Antioch under Bohemond IV, who ruled both as count of Tripoli and prince of Antioch between 1187 and 1233.[103] A charter chronicling the land dispute between two abbeys mentioned one more possible moneyer active in Antioch during the thirteenth century: a *Terricus de Moneta*, who seems to have owned a piece of land in the principality's territory in 1264.[104] The latest direct reference to a 'moneyer' appears in a property transfer dating to 1274 in Acre, mentioning a Nicolai de Monee.[105]

---

[98] Mayer, *Urkunden*, 541–544, no. 311 (*RRH* 412/*RRR*745).

[99] Giuseppe Müller, *Documenti sulle relazioni delle città toscane coll'Oriente cristiano e coi Turchi fino all'anno 1531*(Florence, 1879), 17–18, no. 15 (*RRH* 585/*RRR*1039).

[100] Müller, *Documenti*, 24, no. 20; 25–26, no. 22; (*RRH* 621, 662/*RRR* 1113, 1238).

[101] Mint records from medieval England during this period show that many of the minters often came from France or Germany. See Allen, *Mints and* Money, 61.

[102] A fellow moneyer from Canterbury, one Nicholas of St. Albans had previously worked as mint master for the king of Denmark. See Allen, *Mints and Money*, 61.

[103] Also, Bernardus seems to have been involved with the Pisan Commune in the Frankish East; see Müller, *Documenti*, 79–80, No.49 (*RRH* 758/*RRR* 1447). He witnessed together with Iohannes Moneta a charter in 1182 in Tripoli. See *Cart Hosp* 1:450–452, no. 676 (*RRH* 637/*RRR* 1143).

[104] *Chartres Josaphat*, 117–119, No.57 (*RRH* 1333).

[105] Louis de Mas Latrie, *Histoire de l'île de Chypre sous le règne des princes de la maison de Lusignan*, 3 vols (Paris, 1852–61), 677, No.3 (*RRH* 1400).

These moneyers, money changers and goldsmiths were mostly active in the larger cities and towns of the Latin East, where the demand for striking coin and money changing was the highest: Jerusalem, Acre, Tyre, Tripoli and Antioch. These were places with a massive presence of pilgrims, merchants and local lords always in need of monetary services. However, such activities also took place in smaller settlements like Caesarea, where a *Herbertus cambiator* witnessed in 1167 the sale of a shop between two local inhabitants in the town's *curia juratorum*.[106] This was likely the same Herbertus active as *numularius* or 'money changer' in Jerusalem 23 years earlier but possibly moved to Caesarea or had traveled there to mint the new royal Holy Sepulcher deniers for the local Grenier lords and their subjects.[107]

The frequent inclusion of moneyers and money changers among the non-nobles on witness lists clearly indicated that regarding their legal and social standing in the Frankish East they were part of the burgesses, unlike French and German moneyers, who were often absorbed into the class of vassals.[108]

From the documents it appears that *cambiatores*, money changers, were present early in the Latin East. The earliest reference to money changers appears in a royal gift of the *tabulae cambii* ('tables of money-changers') to the abbey of Mount Sion in Jerusalem located on both sides of the adjacent entrance to the city in 1118.[109] The first mention of a money changer, Brunet the *cambiator*, active in Jerusalem, dates to 1125, in the reign of Baldwin II. His first name, Brunet, indicated he was a Frankish immigrant from either Germany or France.[110] Brunet witnessed the sale contract of a house between two burgesses in the Tower of David, the city's main citadel, together with some 20 other witnesses, among them also two other metalsmiths, Petrus and Radulfus. Also, the appearances of goldsmiths are quite early, in 1133, while a first reference to a moneyer, Fulco de Moneta from Acre, dates to much later in 1163.[111] However, it is important to remember that during most of the twelfth century and early thirteenth century these tasks were performed often interchangeably by one and the same person, as we saw earlier in Western Europe and Byzantium. Indeed, moneyers like goldsmiths not only had the technological know-how for producing silver and gold coinages but also frequently possessed considerable amounts of cash money that they could use as loans to merchants, rulers and local officials. From contemporary mint records that survived in England we know that many of the moneyers were indeed goldsmiths or owned workshops with forges.[112] The presence of both Syrians and Frankish goldsmiths, functioning also as money changers on intersections of the main thoroughfares and markets in Jerusalem, is unequivocally indicated by the chronicle of Ernoul in Jerusalem before 1187. Ernoul's chronicle mentioned two *canges*, a Syrian and a Latin money exchange, positioned at both ends of a covered market complex (Figure II.9.13). These seem to clearly intersect with the booths of the Syrian and Latin goldsmiths, *les escopes des orfevres suriens* and *les escopes orfevres latin* located there.[113] A number of round maps of Jerusalem of this period place these money exchanges as a shop-like structure exactly in this area, at the intersection of the city's main roads, the *vicus St. Stephanus* and *vicus ad Templum Domini*, near the food market and near the church of Mary of the Hospitallers.[114] Money

---

[106] Joseph Delaville Le Roulx, *Les Archives, la bibliothèque et le trésor de l'ordre de Saint-Jean de Jérusalem à Malte* (Paris, 1883), 110–111, no. 27 (*RRH* 432/*RRR* 776).

[107] *Cart St-Sép*, 164–165, no. 68 (*RRH* 223/*RRR* 420).

[108] Lopez, "An Aristocracy of Money," 14–15.

[109] Rudolf Hiestand, *Papsturkunden für Kirchen im Heiligen Lande* (Göttingen, 1985), 284, no. 113; Mayer, *Urkunden* 1, 201–202, no. 67 (RRR 169).

[110] My thanks to Prof. Iris Shagrir, Department of History, Open University of Israel, for her insightful comments on these matters.

[111] *Cart Hosp* 1:222–223, no. 309 (*RRH* 458/*RRR* 854).

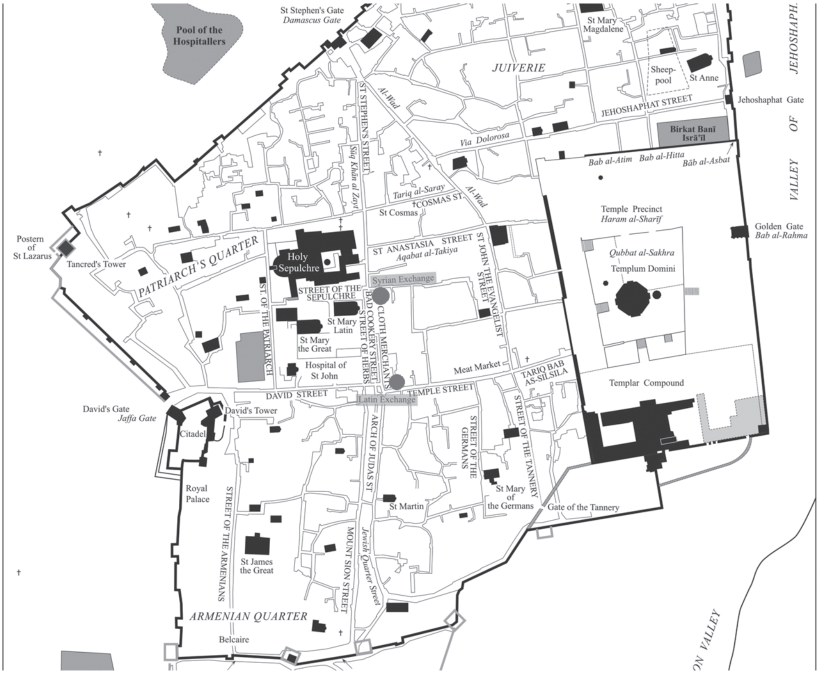

Pool of the Hospitallers
St Stephen's Gate
Damascus Gate
St Mary Magdalene
JUIVERIE
Sheep-pool
St Anne
JEHOSHAPH.
OF
VALLEY
Jehoshaphat Gate
JEHOSHAPHAT STREET
Birkat Banī Isrā'īl
ST STEPHEN'S STREET
Al-Wad
Sūq Khān al Zayt
Via Dolorosa
Bab al-Atim
Bab al-Hitta
Bāb al-Asbat
Tariq al-Saray
COSMAS ST.
St Cosmas
Al-Wad
Temple Precinct
Haram al-Sharīf
Golden Gate
Bab al-Rahma
Postern of St Lazarus
Tancred's Tower
PATRIARCH'S QUARTER
Holy Sepulchre
ST ANASTASIA STREET
Aqabat al-Takiya
ST JOHN THE EVANGELIST STREET
Qubbat al-Sakhra
Templum Domini
Syrian Exchange
STREET OF THE SEPULCHRE
ST. OF THE PATRIARCH
St Mary Latin
St Mary the Great
Hospital of St John
BAD COOKERY STREET
STREET OF HERBS
CLOTH MERCHANTS
Meat Market
TARIQ BAB AS-SILSILA
DAVID STREET
TEMPLE STREET
Latin Exchange
Templar Compound
David's Gate
Jaffa Gate
David's Tower
Citadel
ARCH OF JUDAS ST
STREET OF THE GERMANS
STREET OF THE TANNERY
Royal Palace
STREET OF THE ARMENIANS
St Martin
St Mary of the Germans
Gate of the Tannery
St James the Great
MOUNT SION STREET
Jewish Quarter Street
ARMENIAN QUARTER
Belcaire
ON VALLEY

Figure II.9.13 Location of the 'Latin' and 'Syrian' money exchangers in Jerusalem (adaptation by author) [with permission of Denys Pringle 23/02/21]. © R. Kool

changing seemed to have been an important occupation in Jerusalem shown by the existence of a *platea nummulariorum*, a street or square of the money changers already by 1129.[115] Indeed, besides the aforementioned Brunet, an additional 10 individuals are explicitly named as money changers in charters dated between 1129 and 1244. Some of these money changers, like Guilelmus 'the Bastard', accumulated considerably more wealth and power with their money-changer tables than the average moneyer. Three charters between 1138 and 1164 mention he had a stake in a number of *mensis numulariorum*, money-changer tables, together with canons of the Holy Sepulcher. He also had the extraordinary right to settle other money changers in houses or shops he constructed, a privilege otherwise enjoyed only by the king, Amaury I, known for his compulsive occupation with money affairs.[116] This also strongly suggests that the license to operate a money exchange or workshop for minting coins in the Kingdom of Jerusalem was a royal monopoly, much like in medieval England, where moneyers farmed the mint from the king, paying him a yearly sum.[117] The importance of such a royal monopoly also extended to the burgess law courts in the Frankish East, which were not allowed to judge cases of false moneying. Such cases, with theft, homicide, treason and rape were exclusively the jurisdiction of a royal court.[118]

---

[112] Metcalf, "Early Medieval Mints," 60–61; Allen, *Mints and Money*, 61–62.

[113] *Crusader Syria in the Thirteenth Century*: *The Rothelin Continuation of the History of William of Tyre with Part of the Eracles of Acre Text*, trans. Janet Shirley (Ashgate, 1999), 14–19. "*A main destre des cel Marcie sont les escopes des orfrevres suriens. . . . A main senestre de cel marcie sont les escopes de orfevres latin*".

[114] Milcha Levi, "The Maps of Jerusalem during the Middle Ages," in *Sefer Jerushalayim: The Crusader and Ayyubid Period (1099–1250)*, eds. Joshua Prawer and H. Ben-Shammai (Jerusalem, 1991), 418–508 (Hebrew).

The presence of some 16 goldsmiths in Jerusalem, Acre and Tyre from the 1130s onward cannot be accidental but clearly indicated the important role they played in a local economy, especially one primarily based on gold coinages. Goldsmiths possessed the technological know-how to produce and check the fineness and weight of gold coins, an extremely rare and important skill in the medieval economy, where gold coins needed often to be checked individually. Goldsmithing was frequently associated with money exchanging. For example, in 1144, the witness list to a settlement of property rents between the canons of the Holy Sepulcher and Arnulfus, a local Syrian Christian mentioned Fulco *aurifex*, 'the goldsmith' together with Herbertus *numularius* 'money exchanger'.[119] This same Fulco appeared seven years earlier in 1135 as witness to the sale of house to the same canons of the Holy Sepulcher with six other men, *omnes isti aurifabri*, 'all goldsmiths'.[120]

That these *aurifabri* held a prominent position in Frankish non-noble society, sometimes for decades, can be observed in the case of Petrus Petragora. His byname suggests he apparently arrived in the Latin East from Perigord, southwestern

---

[115] Mayer, *Urkunden*, 270–273, no. 111 (*RRH* 130/*RRR* 276).

[116] *Cart St-Sép*, 96–98, no. 33; 103–105, no. 36; Mayer, *Urkunden*, 536–541, no. 310 (*RRH* 181, 278, 400/*RRR* 365, 524, 733). For Amaury see Willelmus Tyrensis, *Willelmi Tyrensis Archiepiscopi Chronicon*, ed. Robert B. C. Huygens Corpus Christianorum Continuatio Mediaevalis, 63ª (Turnhout, 1986), XIX, 2, 50–51; 64–66; XX, 7, 1–21; XX, 19, 58–62.

[117] Allen, *Mints and Money*, 62.

[118] Mayer, *Urkunden*, 2, 818, no. 470 (*RRH* 697/*RRR* 1279).

[119] *Cart St-Sép*, 164–165, no. 68 (*RRH* 223/*RRR* 420).

[120] These were Bernardus Aurifaber, Petrus Faber, Petrus Petragora, Seibertus Iudex, Sinardus and Tustanus; see *Cart St-Sép*, 167–168, no. 70 (*RRH* 154/*RRR* 330).

France.[121] Settling in Jerusalem and working as a goldsmith he appeared in the charters for the first time in 1133 when he witnessed a contract between two burgesses and the confraternity of the Holy Sepulcher church, together with three of his colleague-goldsmiths, Tustanus, Bernardus and Umbertus.[122] Two years on, in 1135, he appeared again on two separate occasions: as a witness to the sale of a house and a legal dispute over a gift involving the property of a house, both associated with the Holy Sepulcher.[123] Twenty-one years later, now well established among the city's burgesses, he was asked to witness the oath of fealty the Frankish inhabitants of the rural settlement of *Magna Mahumeria* swore to their new landlords, the canons of the Holy Sepulcher.[124] By 1160 he once more witnessed for the same church a lease of a property together with two members of his guild, Pisellus and Uldretus. Finally, he appeared for the last time a year later in 1161, now ranking among the *probi viri* of Jerusalem, a special group of arbitrators chosen from the highest ranks of the non-noble *burgensis* in Jerusalem, to arbitrate in a dispute between the Holy Sepulcher chapter and some Jacobite monks.[125] Apparently these *cambiatores* and their families invested their sometimes considerable wealth in real estate, like Lambertus the money changer's sister Aldeburga, who donated half of a casale she owned near Acre to the Hospitaller order in 1129.[126] And like in the West, often the métier was transgenerational[127]: a son or grandson of the aforementioned Lambertus, carrying the same name, was possibly active as *cambiator* in Jerusalem in the 1150s–1170s. Also, this Lambertus belonged to the highest ranks of non-noble society as one of the *juratis hyrosolymitatis*, a juror of the *Cour des Bourgeois*, the court that judged criminal and civil cases and the transfer of properties of free Frankish non-noble inhabitants in the East.[128]

Conclusion

The accumulation of both documents and material coin evidence about minting in Crusader states, particularly of the Kingdom of Jerusalem, is substantial. The documents exclusively relate to the minting of gold coins or *bisancios*. Many of these clearly suggest the existence of a royal-controlled monetary organization overseeing the production, quality and use of gold coins in the kingdom. A handful of documents contain information about the physical location of a mint or mint workshop in the larger cities of the Jerusalem kingdom and the Northern Principalities. As far as coins struck in the Frankish East is concerned, they seem to indicate the simultaneous existence of separate mint establishments or workshops using completely different technologies and procedures to produce Eastern-type gold imitation dinars and cut gold on the one hand, and Western-type silver/billon deniers on the other hand. The Islamic gold, and later in the thirteenth-century silver imitations, seems to have been produced in the main cities of the Frankish East. In contrast, recent distribution studies of royal billon deniers show these were minted in the tens of millions, from a particularly large number of dies involving a considerable number of minters and/or workshops. Nevertheless, also here, the relative stable weight and alloy of these royal billon series during the twelfth century show that the kings of Jerusalem but also surely the rulers of Antioch and Tripoli exercised relatively strict control also over these billon coinages. A comparison with contemporary minting traditions in the West and East seems to bear this out. The minting of billon deniers in the West was done by *monetarii*, skilled craftsmen specializing in metalwork, producing such coins in small workshops located in towns, castles and towers. In contrast gold currencies minted in the East in Byzantium and the Fatimid empire were struck in factory-like establishments, located in or near a palatial-treasury complex where these were centrally produced. The appearance in Latin charters of a cohesive social group of moneyers in the Frankish East sheds further light on the previous questions. Clearly many of these moneyers were Western immigrants that set up workshops, minting the tens of millions of billon deniers, of which we find not a trace in Frankish documents, in the Kingdom of Jerusalem, Cyprus and northern principalities of Tripoli and Antioch during the twelfth and thirteenth centuries. From the charters we learn that these moneyers were mostly active in the larger cities and towns of the Latin East where the demand for striking coin and money changing was the highest. Like their Western counterparts many of them belonged to the upper ranks of urban burgess society. Local Eastern Christian money changers do not appear in the charters, but we know they existed from a rare appearance they made in the chronicle of Ernoul. Interestingly, many of these moneyers were goldsmiths. One cannot but believe that over time a number among them, learning the new Eastern technologies of minting gold coinages previously unknown to them, were those that produced the imitation bezants of the Frankish East, perhaps in royal establishments like the citadel or palace in Jerusalem, as Adrian Boas suggested, or the royal-controlled ports in Acre and Tyre.[129] Later on, between the 1260s and 1280s, Frankish minters return to striking large Western-style silver gros in the citadel of Tripoli. Clearly, for almost 200 years Western and Eastern minting traditions of *moneta*, *sikka* and *charage* found their expression in the hybrid monetary environment of the Frankish states in the East.

---

[121] For the presence of moneyer workshops there see Bompaire, "Lieux de monnaie," 88.

[122] *Cart St-Sép*, 217–218, no. 99.

[123] *Cart St-Sép*, 220–222, no. 102; 167–168, no. 70.

[124] *Cart St-Sép*, 237–240, no. 117.

[125] Christiane Tischler, *Die Burgenses von Jerusalem im 12. Jahrhundert. Eine Prosopographie über die nichtadligen Einwohner Jerusalems von 1120 bis 1187* (Frankfurt am Mein, 2000), 2–3.

[126] Mayer, *Urkunden*, 1:270–273, no. 111; (*RRH* 130/*RRR* 276).

[127] See on this Pamela Nightingale, "Some London Moneyers and Reflections on the Organizations of the English Mints in the Eleventh and Twelfth Centuries," *Numismatic Chronicle* 142 (1982), 35–42.

[128] C. Tischler, *Die Burgenses*, 2–3; M. Nader, *Burgesses and Burgess Law in the Latin Kingdoms of Jerusalem and Cyprus (1099–1325)* (Ashgate, 2006), 130–131.

---

[129] Adrian Boas, *Jerusalem in the Time of Crusades: Society, Landscape and Art in the Holy City under Frankish Rule* (London, 2001), 167; David Jacoby, "Crusader Acre in the Thirteenth Century: Urban Layout and Topography," *Studi medievali*. 3, series 20 (1979), 1–45.

10 For want of a nail

Horse and donkey shoes in the Kingdom of Jerusalem[1]

Joppe Gosker

When Cedric Norman Johns found the first Crusader-period horseshoe in ‘Atlit in the 1930s he set the foundation for research on horseshoes in the Kingdom of Jerusalem. He labeled it “European” to distinguish it from the “traditional native horseshoe” used in his day.[2] Since then many scholars have used this distinction, but to confuse matters, Crusader horseshoes have also been classified into two chronological types. Johns estimated the height of the horse to be small, like the “mounts of the Palestinian Police, which stand 14 hands 2 inches” (c. 147 cm). Almost 90 years after Johns’s excavations, time is ripe to revisit this subject.

To achieve a good understanding of horseshoes, I will use the notion of ‘entanglement’, introduced by Ian Hodder[3] to describe how things are connected to other things, humans and ideas. Hodder argues that things are not mere messengers, passing on meaning created by a human actor, as they are often understood in actor network theory. In Hodder’s theory things are actors themselves and have intrinsic properties that allow or resist bonds with other actors. This creates ‘dependencies’ that constrain or limit change. Bringing the material to the center of the stage as agents strikes the right balance between an exaggerated emphasis on human agency and materialistic determinism. The manner in which horseshoes are entangled is beautifully illustrated by a twelfth-century proverb: “Ferrum per clauum ferrumque equus, per equum uir, perque uirum castrum, per castrum patria durat”[4] (A nail [holds] a horseshoe, a horseshoe a horse, a horse a man, a man a castle, a castle a land). This is the oldest known version of the modern proverb starting with

---

[1] I want to thank several people for allowing me to use unpublished finds from their excavations; Adrian Boas, Rabei Khamisy, Kate Raphael, Ronnie Ellenblum, Hadas Motro, Amani Abu Hamid, Yotam Tepper, Edna Stern, Eliezer Stern and Fabrizio Benente. I also want to thank the many volunteers who measured their donkeys’ hooves for me. I also want to thank the Israel Nature and Parks Authority for their cooperation with the Montfort excavation.

[2] Cedric Norman Johns and Denys Pringle, *Pilgrims’ Castle (‘Atlit), David’s Tower (Jerusalem), and Qal’atar-Rabad (‘Ajlun): Three Middle Eastern Castles from the Time of the Crusades* (Brookfield, VT, 1997), 43.

[3] Ian Hodder, *Entangled: An Archaeology of the Relationships Between Humans and Things* (Chichester, 2012).

[4] Zwettl, *Zwettl Stiftsbibliothek*, cod. 293, 138.

DOI: 10.4324/9781003146926-11

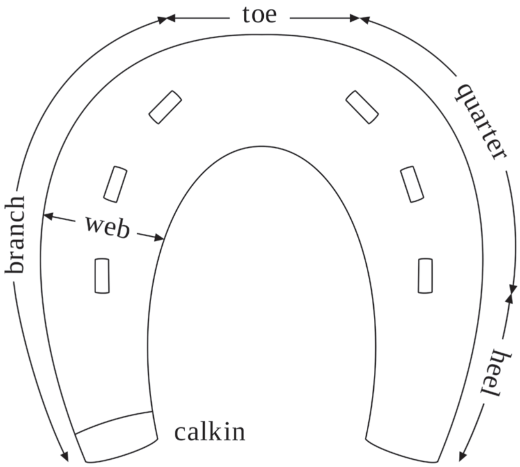


Figure II.10.1 Horseshoe terminology. By author. © J. Gosker

"For want of a nail". I will not argue for this form of linear causality, but I will attempt to retract as many connections as possible and re-entangle the horseshoes in their twelfth- and thirteenth-century context in the Kingdom of Jerusalem. This will include the nail and the rider, but also the stables and other animals.

Horseshoes, as opposed to the Roman *hippo sandal*, are attached to the hoofs with nails. They are made of iron, commonly U-shaped (Figure II.10.1). They are divided into a toe and two branches, that are in turn subdivided into a quarter and a heel. At the end of the heel is sometimes a thickening, called a calkin. The width of the branch is called the web. Along the branch there are several nail holes. Horseshoes can exactly fit the size of the hoof (close fitting), or it can be bigger than the hoof (full fitting). A farrier makes the horseshoes and nails them to the hoof. Seventy-six horseshoes and fragments of horseshoes were found inside the borders of the Kingdom of Jerusalem. Some are fully preserved; others can be reconstructed in some way. Even when the dimensions cannot be reconstructed, other properties can often be recognized.

Horses

Horses were domesticated in the western part of the Eurasian steppe c. 3500 BCE.[5] The domestic horse rapidly spread and was widely used for transportation. In nature hoof growth compensates for hoof wear and the elasticity of the hoof is adapted to the natural weight of the horse. The work demanded of domestic horses and the conditions in which they were kept caused their hoofs to wear faster and sometimes to crack. This resulted in lame horses that could not continue to work. In order to get more out of horses than their bodies could handle, men started to use horseshoes. This most likely happened during the Early Middle Ages in Western Europe. The time and place might be explained by a combination of factors, connected with the employment of horses in agriculture.

---

[5] Veraet Warmuth Anders Eriksson, Mim Ann Bower, Graeme Barker, Elizabeth Barrett, Bryan Lent Hanks, Shuicheng Li et al., "Reconstructing the Origin and Spread of Horse Domestication in the Eurasian Steppe," *Proceedings of the National Academy of Sciences* 109/21 (2012), 8202–8206.

Domestic horses were often kept in stables, where they stood in a humid mixture of dung, urine and plant material. Sometimes other materials were added to reduce the humidity, like household waste and ash,[6] indicating awareness of the harmful effects of these conditions on the hooves. The stabling of horses must have had a negative effect on their hooves also in another way. Horses need to graze many hours a day to obtain enough energy; keeping them in stables required feeding them instead. The natural diet of horses is composed of a multitude of grasses and plants, while the diet of the medieval domestic horses consisted mainly of oats, at least in the winter.[7] Modern veterinarians recognize a direct connection between hoof health and nutrition.[8]

Horses have been kept in stables since before the Middle Ages, but during the Early Middle Ages horses gradually replaced oxen as the main source of animal power in agriculture.[9] Horses were put to work for long hours hauling heavy loads, made possible by the introduction of different technologies. The yoke, used on oxen, would limit horses' breathing. The introduction of the horse collar in the ninth century allowed horses to pull heavier loads. At the same time the whippletree appeared. This device allowed a team of animals with different strengths to haul a load together. This allowed smaller units of organization that could afford only one horse to use it in combination with other animals. Gradually the work grew harder, the load grew heavier and the hoofs grew softer: thus the horseshoe was adopted. Once adopted, it proved effective in the military too, preventing damage to the hoofs, especially when the horse was mounted by a heavy knight.

Donkeys and mules

Like horses, donkeys and mules can be shod. The hooves of donkeys are more elongated than those of horses (Figure II.10.2). The different hoof shape can be

---

[6] Miroslav Dejmal, Lenka Lisá, Miriam Fišáková Nývltová, Aleš Bajer, Libor Petr, Petr Kočár, Romana Kočárová et al., "Medieval Horse Stable; The Results of Multi Proxy Interdisciplinary Research," *PLoS ONE* 9/3 (2014), 4, 9.

[7] John Langdon, "The Economics of Horses and Oxen in Medieval England," *The Agricultural History Review* 30/1 (1982), 31–40.

[8] Jack Thirkell and Rebecca Hyland, "A Preliminary Review of Equine Hoof Management and the Client – Farrier Relationship in the United Kingdom," *Journal of Equine Veterinary Science* 59 (2017), 92.

[9] Paul J. Gans, "The Medieval Horse Harness: Revolution or Evolution? A Case Study in Technological Change," in *Villard's Legacy: Studies in Medieval Technology, Science and Art in Memory of Jean Gimpel*, ed. Marie-Therese Zenner (Aldershot, 2004), 175–187.

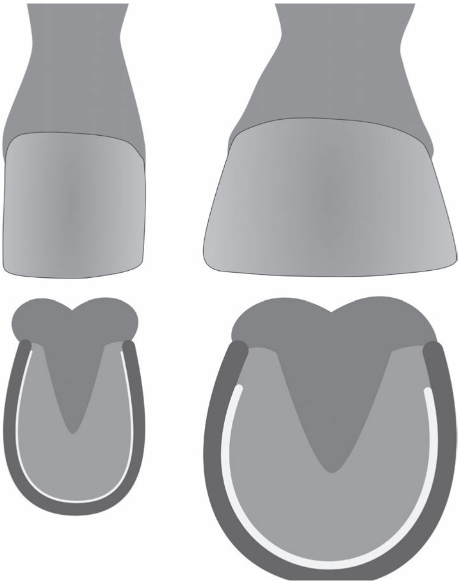


Figure II.10.2 The difference between the donkey and horse hoof. By author. © J. Gosker

translated into a length–width ratio: for horses it is close to 1, but for donkeys and mules the number is likely to be larger. Mules, the offspring of a male donkey (jack) and a female horse (mare), are closer in size to horses, but their hooves are like those of a donkey, only bigger.[10] Donkeys were scarce in medieval England, Scandinavia, Germany and Eastern Europe. In northern France they were more common,[11] but in the Levant donkeys had been used for thousands of years. Mules have specific properties that make them more suitable than horses and donkeys for certain tasks. They are stronger than horses of the same size and are less demanding in their diet.

Hooves

The hooves of horses are conical (Figure II.10.2). When they grow, they widen. Horseshoes put some strain on this process,[12] but shod hooves still grow c. 5 mm

[10] Anderson Fernando de Souza, João Ricardo Kunz, Rogério Laus, Marcelo Alves Moreira, Thiago Rinaldi Müller and Joandes Henrique Fonteque, "Biometrics of Hoof Balance in Equids," *Arquivo Brasileiro de Medicina Veterinária e Zootecnia* 68/4 (2016), 825–831.

[11] Peter Mitchell, *The Donkey in Human History: An Archaeological Perspective* (Oxford, 2018), 159–160.

[12] Sara R. Malone and Helen M. S. Davies, "Changes in Hoof Shape During a Seven-Week Period When Horses Were Shod Versus Barefoot," *Animals* 9/12 (2019), 1017.

in width in a six-to-eight-week period.[13] Shoeing can result in the narrowing of the hooves, a problem that occurs after years of continued shoeing. Abu Bakr described the narrowing of the hoof in the early fourteenth century.[14] In the same century his Italian colleague Lorenzo Rusio also recognized this problem and ascribed it to shoeing horses that were too young.[15] The open and narrow-webbed horseshoe will slightly widen with the hoof, allowing for some growth. Closed shoes would allow for less growth and thus worsen the narrowing of the hooves. The hooves of donkeys and mules are cylindrical (Figure II.10.2),[16] and their hooves do not widen when they grow. The narrowing of the hoof does not therefore occur in donkeys and mules, but there is another mechanism at play. When any equid puts weight on a hoof it widens, especially at the back of the hoof. This is called the *hoof mechanism*, and it functions as a shock absorber.[17] The narrow-webbed horseshoe limits this mechanism, but a full horseshoe stops it altogether.[18] This causes problems when the animals are galloping, less so when they walk. The difference in the shape of their hoof and the different tasks carried out by donkeys, mules and horses make it likely that the full shoes were used for donkeys and mules but not for horses.

Nails

Horseshoes were attached to the hooves by nails. The nails penetrated holes along the branches of a horseshoe and entered the outer wall of the hoof and exited it a little higher. The end was then or cut and bent downwards, or bent and hammered back in. The heads of the nails were often sunken into slots in the horseshoe, but still stood proud of the sole. Nails are very important indicators that horseshoes were present when the horseshoes themselves are not found. Roughly six nails were needed to attach a horseshoe, and they needed to be removed every four to six weeks because of the natural growth of the hoof. In premodern times it was common to reuse a horseshoe once after it was removed. This provides us with a ratio of 12 nails per shoe. From the ratio between horseshoes and nails in historical

---

[13] Martin Kummer et al., “The Effect of Hoof Trimming on Radiographic Measurements of the Front Feet of Normal Warmblood Horses,” *The Veterinary Journal* 172/1 (2006), 64.

[14] Housni Alkhateeb Shehada, *Mamluks and Animals*, Sir Henry Wellcome Asian Series 11 (Leiden, 2013), 431.

[15] Laurentius Rusius, *La mascalcia di Lorenzo Rusio volgarizzamento del secolo 14., messo per la prima volta in luce da Pietro Delprato, aggiuntovi il testo latino per cura di Luigi Barbieri*, trans. Luigi Barbieri and Pietro Delprato (Bologna, 1867), 56, 57.

[16] Suzanne L. Burnham, “Anatomical Differences of the Donkey and Mule,” *Proceedings* 48 (2002), 102–109.

[17] Phil Sidnell, *Warhorse: Cavalry in Ancient Warfare* (London, 2007), 282.

[18] Christine Hinterhofer, Norbert Weißbacher, Hans H. F. Buchner, Christian Peham and Christian Stanek, “Motion Analysis of Hoof Wall, Sole and Frog under Cyclic Load in Vitro: Deformation of the Equine Hoof Shod with Regular Horse Shoe, Straight Bar Shoe and Bare Hoof,” *Pferdeheilkunde Equine Medicine* 22/3 (2006), 318.

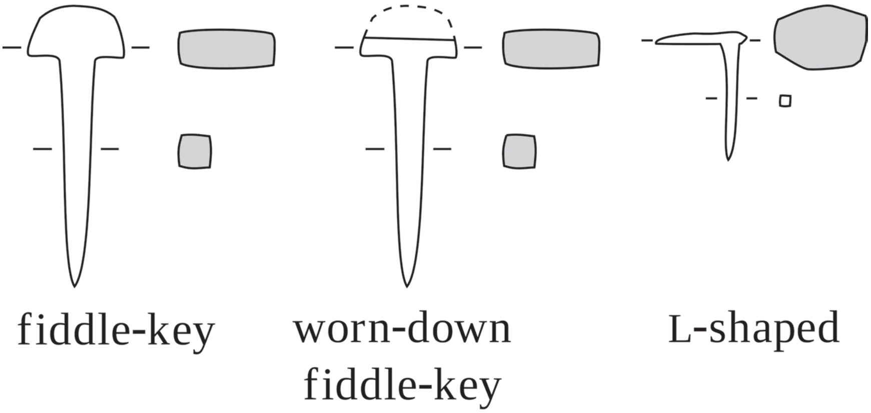


Figure II.10.3 Types of horseshoe nails. By author. © J. Gosker

sources, we can estimate a similar situation in the medieval period. Orders of 2,000 horseshoes included 20,000 nails, orders with 10,000 horseshoes included 100,000 nails.[19] At Montfort, 12 horseshoes and 170 horseshoe nails were found in excavations carried out by Adrian Boas from the University of Haifa.

Attempts have been made to recognize different types of horseshoe nails. John Clark, in his work on medieval horseshoes from London,[20] writes about several types of horseshoe nails. The fiddle-key type are nails that have a semicircular or trapezoidal head when seen in profile, but with the same thickness as the shaft. The T-shaped nails, found in London, are likely worn-down fiddle-key nails, as noted by Clark. A third type has a rectangular expanding head with ears. Later medieval horseshoe nails have square heads that are thicker than the shaft. Only the fiddle-key nails and worn-down fiddle-key nails were found in the Kingdom of Jerusalem (Figure II.10.3). Rafael Y. Lewis distinguishes between two types of horseshoe nails.[21] The first is the fiddle-key type, associated with Frankish presence, and a second, Eastern type with an L-shape section. These Eastern-type horseshoe nails are found in non-stratified contexts, and the given parallels leave much room for interpretation. There are, however, several horseshoes with rounded holes, lacking countersinking, found in Crusader-period sites that must have functioned with flat-headed nails, making it likely the horseshoes with round holes and the flat-headed horseshoe nails were used during this period. Because there are no European examples of similar horseshoes or nails it seems likely they represent an Eastern type.

---

[19] John Clark, "Horseshoes," in *The Medieval Horse and Its Equipment: C.1150-c.1450*, ed. John Clark, Medieval Finds from Excavations in London 5 (London, 1995), 75–123, at 83.

[20] Clark, "Hoseshoes," 85–91.

[21] Rafael Y. Lewis, *Archaeology of Conflicts: The Decisive Stage of the Battle of Hattin as a Case Study*, PhD Diss. (Haifa University, 2013), 184.

The fiddle-key nails in the Kingdom of Jerusalem are similar to the fiddle-key nails found in Europe. They average 17 mm in width and c. 7 mm in thickness. It is difficult to distinguish between broken and complete nails since the end might taper in both cases. The average length of complete nails in York, England, was 38 mm.[22] The average length of the broken and complete horseshoe nails from the Kingdom of Jerusalem was 31 mm.

Typology

An influential typology of horseshoes from medieval London is presented by John Clark.[23] This typology is used in England and in other parts of Western Europe.[24] Clark divided the horseshoes chronologically into four types, based on their shape, the shape of the nail holes and the associated nails. Type 1 is smooth, wide-webbed and thin; type 2 is narrow-webbed, thick and wavy; type 3 is wide-webbed and thick; and type 4 is also wide-webbed and thick, but has no countersunk nail holes as opposed to the first three types. The nails associated with the countersunk nail holes were fiddle-key nails; the other nails were square. Clark dates the types rather broadly and notes long periods of overlap. Type 1 was in use from the 800s until 1200 CE, type 2 from 1050 to 1350 CE, type 3 from 1200 to 1500 CE and type 4 was introduced in the late thirteenth century. A German typology created by Walter Drack[25] is rather similar to Clark's. Drack used horseshoes from Swiss castles and placed the wavy-edged horseshoes before the smooth ones, creating only two types. These are dated by Drack from the tenth century to the fourteenth century, while he dates the straight horseshoes to the thirteenth to the seventeenth centuries. He also compared them to horseshoes from other countries and concluded that his typology was also valid for England, France, Austria, Germany, Yugoslavia and Sweden. Simone Martini added to Drack's types an earlier type of simple, smooth horseshoes that he dated "early medieval to eleventh century",[26] producing a German typology that is closer to Clark's. In an article discussing these typologies, Andrej Pleterski questioned their validity.[27] He convincingly argued that Clark over-generalized by pointing out inaccuracies, especially concerning nail holes. Pleterski suggested looking at the different properties separately. He suggested that the first horseshoes had smooth edges and were wide-webbed. The wavy edge was caused by the amount of iron that was displaced when countersunk slots were punched by the narrow branch. This wavy-edged horseshoe appeared in the late tenth century and was dominant in the eleventh and twelfth centuries. The smooth-edged horseshoes never disappeared and became common again in the course of the thirteenth century, replacing the wavy-edged horseshoes. After the fourteenth century the wavy-edged horseshoes disappeared altogether. Calkins appeared in the eleventh century in Britain and probably on the continent as well.

---

[22] Patrick Ottaway and Nicola Rogers, *Craft, Industry and Everyday Life: Finds from Medieval York*, The Archaeology of York The Small Finds 15 (York, 2002), 2965.

[23] Clark, "Horseshoes."

[24] Stijn Heeren, "Hoefijzer (algemeen), 10–02–02," PAN – Portable Antiquities Netherlands, accessed August 4, 2020, https://portable-antiquities.nl/pan/#/public/reference-type/10-02-02#10-02-02.

[25] Walter Drack, *Hufeisen – entdeckt in, auf und über der römischen Strasse in Oberwinterthur (Vitudurum): ein Beitrag zur Geschichte des Hufeisens* (Munich, 1990).

[26] Simone Martini, "Mittelalterliche und neuzeitliche Hufeisen im Rheinischen Landesmuseum Trier," *Funde und Ausgrabungen im Bezirk Trier* 42 (2010), 70–90.

[27] Andrej Pleterski, "The Charm of Medieval Horseshoes a Discussion of Their Chronology, Classification and Origin," *Arheološki vestnik* 66 (2015).

Horseshoes in the East

In the twelfth and thirteenth centuries horseshoes were used in the Byzantine empire but not on the same scale as in Europe. Claims have been made that horseshoes were known in the Byzantine empire from the fifth or sixth century,[28] but those claims are based on unprovenanced museum pieces and a misdated ninth-century source.[29] This ninth-century source is the earliest mention of the horseshoe in the Byzantine empire, but the earliest archaeological evidence is dated to the twelfth century.[30] This gap might be explained by the fact that in the Byzantine realm horses were not used in agriculture[31] and that horses may have been shod only in the military and on a limited scale.

Horseshoes were known in the Islamic world too, but as in the Byzantine empire, they must have been very rare. Ibn Aḫī Hizām, a ninth-century ʻAbbasid veterinarian, has been mentioned as the earliest Arabic source mentioning shoeing horses.[32] He describes a cure to a disease and prescribes 'soling horses' and straightening the hoof. He does not mention nails nor describes the 'sole'.[33] It is therefore not sure what kind of shoe or sole this was. Even if we accept this as evidence for a ninth-century appearance of the horseshoe, it is clear it was used for therapeutic purposes only and is not evidence of the general introduction of horseshoes. The twelfth-century Andalusian veterinarian Ibn al-ʻAuwām unambiguously describes the use of nailed iron horseshoes,[34] but it is only in the early fourteenth century that horseshoes are extensively described by Abu Bakr,[35] leaving no doubt of their use in the Mamluk Sultanate.

---

[28] Stavros Lazaris and Amandine Cristina, "Le Cheval de Guerre Dans l'antiquité Tardive : Élevage, Thérapeutique et Équipements Hippiques," in *Le Cheval Au Moyen Âge*, eds. Elisabeth Lorans and Perspectives Historiques (Tours, 2018), 23–44.

[29] Philip Rance, "The Date of the Military Compendium of Syrianus Magister (Formerly the Sixth-Century Anonymus Byzantinus)," *Byzantinische Zeitschrift* 100/2 (2008), 701–737.

[30] Marko Popović, *The Fortress of Ras*, ed. Miloje Vasić, Archaeological Institute Monographies 34 (Beograd, 1999), 260, 261; Eleni Barmparitsa, "Riding Equipment from the Principality of Achaea (1205–1428)," *Deltion of the Christian Archaeological Society* 37 (2016), 246.

[31] Taxiarchis G. Kolias, "The Horse in the Byzantine World," in *Le cheval, animal de guerre et de loisir dans l'antiquité et au Moyen Âge*, ed. Stavros Lazaris, Bibliothèque de l'Antiquité tardive 22 (Turnhout, 2012), 87–97, at 93.

[32] Veronika Weidenhöfer, "Ninth-Century *AD* Arabian Horse Medicine. The Kitāb al-Furūsīya Wa-l-Bayṭara of Muḥammad Ibn Yaʻqūb Ibn Aḫī Ḥizām al-Ḫuttulī," in *La Médecine Vétérinaire Antique : Sources Écrites, Archéologiques, Iconographiques*, ed. Marie-Thérèse Cam (Rennes, 2015), 159–166.

[33] Martin Heide, "Beschreibung Und Behandlung Einiger Erkrankungen, Die Die Extremitäten Der Pferde Betreffen Aus Dem Kitāb al-Furūsīya Wa-l-Bayṭara Des Muḥammad Ibn Ya'qūb Ibn Aḫī Ḥizām al-Ḫuttulī," *Die Welt Des Orients* 34 (2004), 118, 139.

Horseshoes are not found in pre-Crusader layers in the territory of the Kingdom of Jerusalem, apart from two horseshoes from Tiberias. These two wide-webbed horseshoes with round nail holes were found in a stable, dated broadly to the Early Islamic period.[36] They look like horseshoes that were found in Mamluk contexts in Safed[37] and Naḥal Ḥaggit[38] (misdated to the Roman period by the excavator). In Hama two complete horseshoes and two pieces of horseshoes were found.[39] These are wide-webbed horseshoes, one with reconstructed round nail holes, but based on their shape they could also be related to the short-lived Frankish presence in Hama. In Sardis no horseshoes were found at all among over 1,000 metal artifacts that were collected. Even though these include finds from all periods, the Middle and Late Byzantine periods should have yielded some horseshoes if they were present, because other riding gear was found.[40]

It seems the Seljuk Turks and the Mongols did not use horseshoes. These peoples who came from the steppe would keep their horses outside and had no need for stables; the horses grazed and thus had a natural diet.[41] Every Mongol rider had about five horses and changed horses when the hooves wore down.[42] The Mongols might have used some kind of iron or wooden shoes for pack horses.[43] The Turcopoles, the Crusader light cavalry, may have owned several horses too.[44]

34 Yaḥyā b. Muḥammad Ibn al-ʼAuwām, *Le livre de l'agriculture d'Ibn al-Awam: Kitāb al-filāḥa*, 2 vols. trans. Jean Jacques Clément-Mullet (1867), 2:100–103.

35 Shehada, *Mamluks and Animals*, 168–169.

36 Moshe Hartal, "Hammat Tiberias (South)," *Hadashot Arkheologiyot Excavations and Surveys in Israel* 121 (2009).

37 Edna Dalali-Amosand Nimrod Getzov, "Remains from the Mamluk Period in the al-Waṭṭa Quarter, Safed (Ẓefat)," *ʻAtiqot* 97 (2019), 86*, Fig.77:21.

38 Jon Seligman, *Naḥal Ḥaggit: A Roman and Mamluk Farmstead in the Southern Carmel*, IAA Reports 43 (Jerusalem, 2010), 196, Fig.7.5:33.

39 Gunhild Plougand Evelyn Oldenburg, "Les objets en métal sauf les monnaies," in *Hama; fouilles et recherches de le Fondation Carlsberg, 1931–1938 4/3*, Gunhild Ploug, Evelyn Oldenburg, Erling Hammershaimb, Rudi Thomsen and Frede Lokkegaard (Copenhague, 1969), 13–88, at Fig.22:2, Fig.23:1.

40 Jane C. Waldbaum, *Metalwork from Sardis* (Cambridge, 2013), 40–42.

41 Timothy May, *The Mongol Art of War: Chinggis Khan and the Mongol Military System* (Yardley, PA, 2007), 55.

42 Ibid, 54, 55.

43 Ibid, 57.

44 Yuval Harari, "The Military Role of the Frankish Turcopoles: A Reassessment," *Mediterranean Historical Review* 12/1 (1997), 86, 87.

Generally, it seems that, prior to the Crusader presence, the horseshoe was known but not widely used in the East. The reason for this was likely that horses were not used in agriculture and that iron was less readily available in the East. In Europe iron ore was widely available and mined; in the East, and especially in the Levant, iron ore was rare. In the Islamic world iron ore deposits were located in the periphery; the main production centers were in Spain, central Asia and the Caucasus.[45] There were some smaller mining activities at Beirut[46] and Ajloun,[47] but the price of iron remained high. Though more common in the Mamluk period, horseshoes or donkey shoes only became widely used in the late Ottoman period.

Types of horse and donkey shoes in the Kingdom of Jerusalem

When discussing the types of horse and donkey shoes in the Kingdom of Jerusalem we first need to discuss the absence of evidence. The 'traditional native horseshoe' of Johns, sometimes grouped under the 'Eastern type horseshoe'[48] was not found in twelfth- or thirteenth-century contexts in the Levant. This small, plate-shaped shoe with a central hole is a donkey shoe, found in Ottoman layers in the Levant (Figure II.10.4). One donkey shoe that was found at Belmont castle was dated to the twelfth century, but it comes from an Ottoman context.[49] Theoretically these may have been the earliest form of Byzantine donkey shoes, found in Greece and the Balkans already in the twelfth and thirteenth centuries.[50] But they were probably not known in fourteenth-century Levant, because Abu Bakr, describing a full horseshoe with a hole in the center used for medical treatments as the Antioch shoe,[51] does not mention its similarity to a donkey shoe.

Based on the size and length/width ratio, 12 U-shaped shoes from Crusader contexts can be attributed to donkeys (Figure II.10.5). Seven of those have a length/width ratio between 1.18 and 1.40 and are small; for five only the width could be measured at 85 mm or less and are therefore most likely donkey shoes. One shoe, with a length/width ratio of 1.30 and a width of 100 mm is most likely a mule shoes (see the following discussion). In a study on 360 horseshoes from London,

---

[45] Maurice Lombard, *Les métaux dans l'Ancien Monde du Ve au XIe siècle* (Paris, 2001), 154.

[46] Muhammad al-Idrisi and Pierre-Amédée Jaubert, *Géographie d'Edrisi* (Paris, 1836), 355.

[47] Yosha Alamri and Andreas Hauptmann, "The Iron Ore Mine of Mugharet al-Wardeh/Jordan in Southern Bilad, al-Sham: Excavations and New Dating," in *The World of Iron*, eds. Jane Humphris and Thilo Rehren (London, 2013), 214–222, at 219.

[48] Lewis, "Archaeology of Conflicts," 183.

[49] Richard P. Harperand Denys Pringle, *Belmont Castle: The Excavation of a Crusader Stronghold in the Kingdom of Jerusalem*, British Academy Monographs in Archaeology 10 (Oxford, 2000), 135.

[50] Popović, "The Fortress of Ras," 260, 261; Barmparitsa, "Riding Equipment from the Principality of Achaea (1205–1428)," 246.

[51] Abou Bekr Ibn Bedr, *Le Nâċérî La Perfection Des Deux Arts Ou Traité Complet d'hippologie et d'hippiatrie Arabes*, trans. Nicolas Perron (Paris, 1860), 146.

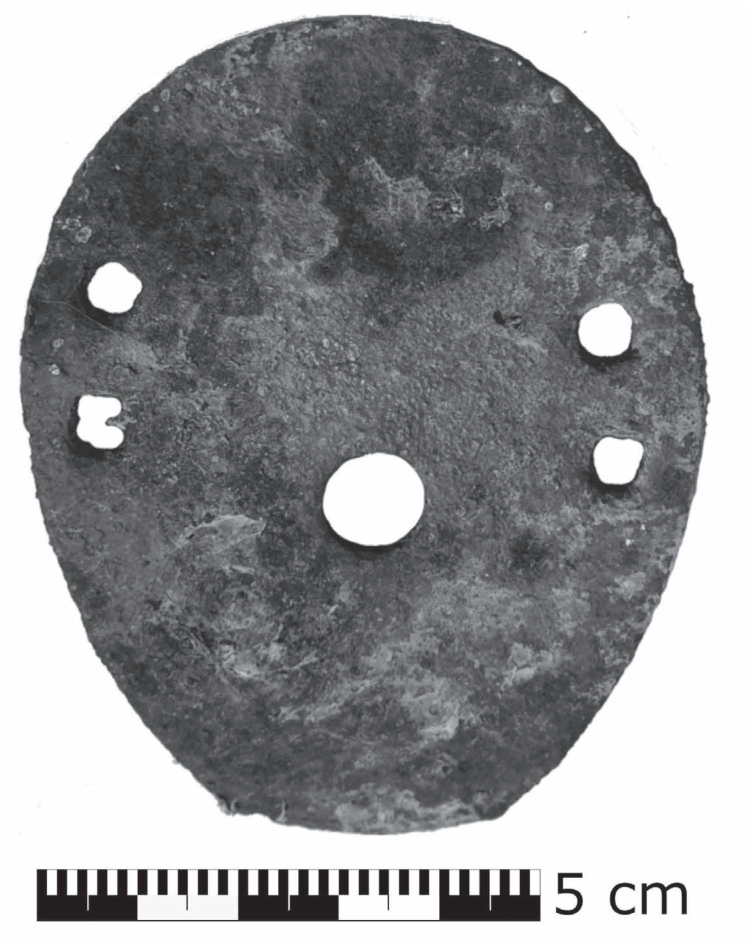


Figure II.10.4 Disk-shaped Ottoman donkey shoe. Photo: Zach Horowitz. © Zach Horowitz.

John Clark reported only five shoes with a ratio of 1.20–1.27.[52] Archaeozoological evidence from the Vadum Iacob excavations is instructive: the skeletons of three horses, two mules, a donkey and three animals that might have been either horse or mule were found.[53] Except for the donkey, all these animals had the lower parts

---

[52] Clark, "Horseshoes," 78.

[53] Hadas Motro, Rivka Rabinovich and Ronnie Ellenblum, "Horse Skeletons and Mules on a Crusader Battlefield – What Can be Learned from Them?" in *Archaeology and Environment: Conference Proceedings (In Hebrew)*, eds. Oren Ackermann, Avraham Faust and Aren Maeir (Ramat-Gan, 2005), 89–104.

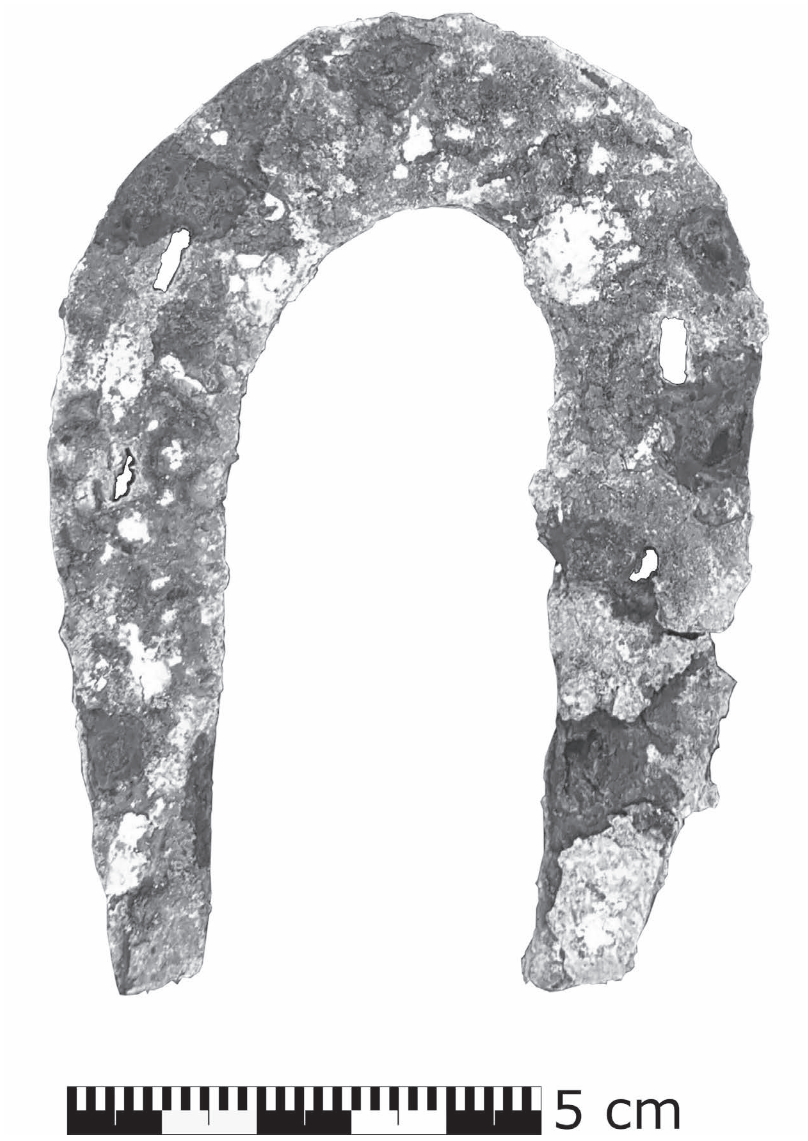


Figure II.10.5 Crusader-period donkey shoe from Montfort. Photo: author. © R. G. Khamisy and A. J. Boas (Montfort Castle Project)

of their limbs removed. The authors suggest that this was done to remove the horseshoes without too much effort. This means we have evidence of shod horses, several shod mules and an unshod donkey.

Horse and donkey shoes are rather common in Crusader contexts. Johns labeled the horseshoes he found at Templar stronghold ‘Atlit ‘European’. Roland de Vaux and Ambroise Marie Steve describe a horseshoe from a church complex at Abu Gosh as the product of European industry.[54] Jochai Rosen wrote a short study about the horseshoes from the village at Bet Zeneta and argued that they are in the European tradition.[55] He differentiates them from another type, also found in the Crusader context, with a wider web and a rectangular internal cutout, without speculating on its source. Ayelet Tatcher, in her report on the metal finds from the village at *Ḥ*orbat ʻUẓa,[56] also differentiates between large, narrow-webbed and small, wide-webbed horseshoes with a rectangular internal cutout. She argues that the first type dates to the twelfth century and the second to the thirteenth. Lewis distinguished between European and Eastern horseshoes at the battlefield of Hittin. According to him, European horseshoes are of the same type described by others, but his Eastern horseshoes include two types. One is wide-webbed and almost closed, the other is the full donkey shoe with the central hole. Both have round or rounded nail holes.[57]

For this research, the properties of 75 shoes found in the Kingdom of Jerusalem were examined. Most are dated by the excavators to the Frankish occupation, but some were found in mixed contexts. Ten wide-webbed horseshoes with rounded nail holes were found at Frankish sites: this is the type correctly identified as ʻEastern' by Lewis (Figure II.10.6). They should be associated with activities, most likely military, of the Ayyubids or the Mamluks. Within the group of 65 ʻEuropean' shoes, there is no evidence for the two distinct forms suggested by Rosen and Tatcher. Rather, there is great variation in the width of the web, but on none of these is the web wider than on examples from European collections (Figure II.10.7).

Horseshoes with internal rectangular cutout also have counterparts in Europe. Whenever the nail holes are preserved, they are ovular or rectangular and have countersinking (when preserved). All the ʻEuropean' shoes can be ascribed to Clark's types 2 and 3. The individual features: countersinking, calkins and wavy edge, all have contemporaneous parallels in Europe. We would expect the wavy edge and calkins to appear in greater numbers in the twelfth century and the wider-webbed shoes with maybe fewer calkins in the thirteenth century, but this is not the case. Of the 65 shoes, only eight are wavy edged. All have the heels preserved, three of them have calkins like the European wavy-edged horseshoes (38%). They are dated by the excavators from the late twelfth to the late thirteenth century.

---

[54] Roland de Vaux and Ambroise Marie Steve, *Fouilles à Qaryet el-Enab Abu Gosh, Palestine* (Paris, 1950), 148–149.

[55] Jochai Rosen, "Crusader-Period Horseshoes from Ḥorbat Bet Zeneta," *'Atiqot* 39 (2000), 107*–108*.

[56] Ayelet Tatcher, "Miscellaneous Finds from Strat 5–1," in *Horbat 'Uza: The 1991 Excavations. 2: The Late Periods*, eds. Nimrod Getzov, Dina Avshalom-Gornui, Yael Gorin-Rosen, Edna J. Stern, Danny Syon and Ayelet Tatcher, IAA Reports 42 (Jerusalem, 2009), 182–188.

[57] Lewis, "Archaeology of Conflicts," 183, wide-webbed type: Pl. 18:4 and Pl. 30:5; full donkey shoe type: Pl. 19:7 and Pl. 30:1,3.

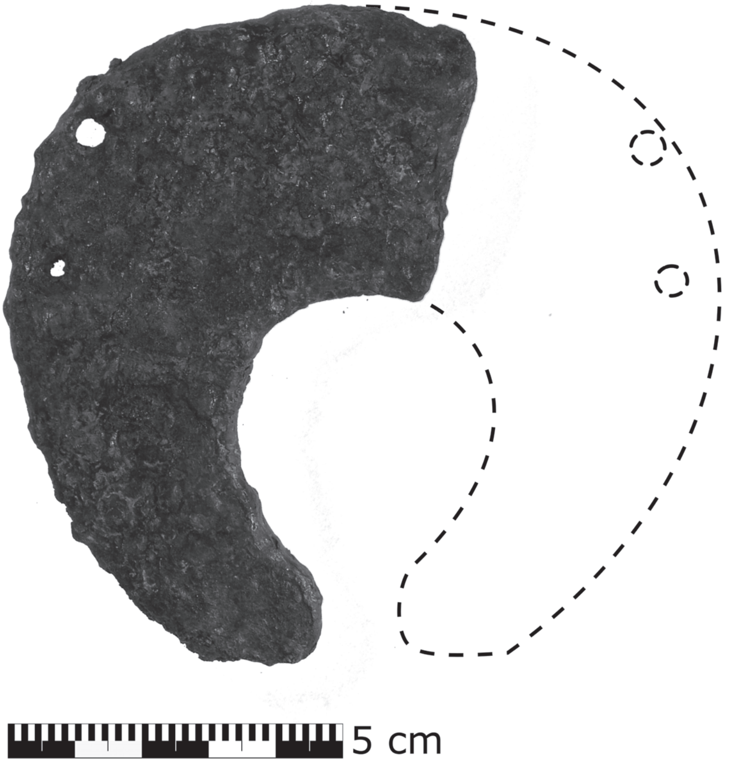


Figure II.10.6 Mamluk horseshoe from the al-Waṭṭa Quarter, Safad. Photo: Howard Smithline. © IAA

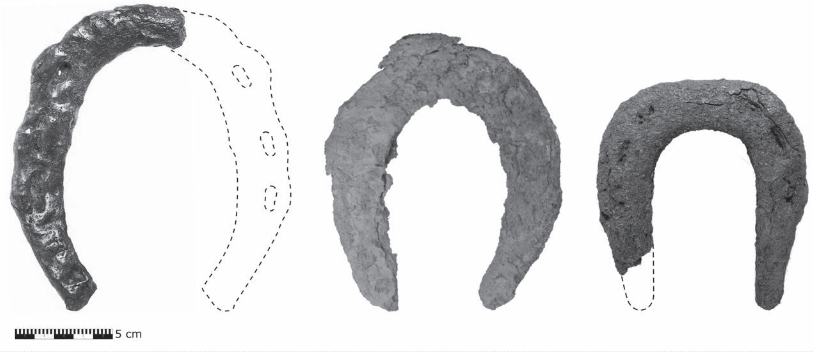


Figure II.10.7 Crusader-period horseshoes; left: wavy-edged horseshoe from Bet Zeneta, middle: straight-edged horseshoe with calkins from ‘Atlit Right, right: straight-edged horseshoe with wide web from ‘Atlit. Photos: Klara Amit (left and right), Mariana Salzberger (middle). © IAA

There are 30 smooth-edged shoes with heels and eight with calkins (36%). The shoes with calkins appear between the late twelfth century and the thirteenth century, the shoes without are found throughout the period. Taking into account the overlap in Clark's typology and the gradual introduction of features described by Pleterski, it is not surprising that with only 65 horse and donkey shoes, no firm chronological conclusions can be obtained for the Crusader period.

The horseshoes were found in villages at Ḥorbat 'Uẓa, Bet Zeneta and Ḥorbat Burin; in military sites like Vadum Iacov, Montfort and 'Atlit; and inside the city of Acre. Since the much larger collections of horseshoes in Europe do not show a correlation between the types of horseshoes and their different use (agricultural or military), it is not surprising that this was not distinguished in the Kingdom of Jerusalem.

Animal size in the Kingdom of Jerusalem

Attempts have been made to estimate the height of medieval horses, based on the size of horseshoes. Johns wrote that the horseshoes he found at 'Atlit were likely for horses of 14 hands and 2 inches (147 cm). He argues those were most likely for saddle horses, not pack or warhorses. In Europe, most horses were about this size or even smaller.[58] The size of horseshoes can be used as an indication for the size of the horse, but the hoof-width:shoulder-height ratio is not the same for all horse breeds. In addition, horseshoes can be close fitting or full fitting.

The ratio between hoof width and shoulder height can be found in a study on horses of four different modern breeds.[59] Most modern breeds emerged in the last centuries, and the medieval horse comes closest to what is known today as cobs.[60] Of the four breeds that are part of this study, the sturdy Polish Konik probably resembles most closely the medieval horse.[61] Data from the Polish Konik can be used to obtain a linear formula that provides a shoulder height for a given hoof width: $H = 0.12 \times W$ (where W: hoof width in mm, H: shoulder height in hands). The real correlation, however, is expected to be between hoof surface and body weight (dependent on volume), and it is likely that the body weight per square centimeter of hoof area is more or less constant. I therefore propose another formula, raising the hoof width to the second power (surface) and raising the shoulder height to the third power (volume or weight): $H^3 = 0.119 \times W^2$ ($H = 0.573 \times W^{2/3}$), based on the average hoof width (111 mm) and shoulder height (13.1 hands) of Polish Konik in the research. When this formula is applied to 360 horseshoes from medieval London[62] the shoulder heights fall in the range that was estimated based on physical remains from London[63] (Figure II.10.8).

---

[58] Richard Thomas, Matilda Holmes, James Morris and Emily Abrehart, "'The Brede of Good & Strong Horsis': Zooarchaeological Evidence for Size Change in Horses from Early Modern London," *Post-Medieval Archaeology* 52/2 (2018), 231; R. H. C. Davis, *The Medieval Warhorse* (New York, 1989), 78–85; Rackham D. James, "Physical Remains of Medieval Horses," in *The Medieval Horse and Its Equipment: C.1150-c.1450*, ed. John Clark, Medieval Finds from Excavations in London 5 (London, 1995), 19–22.

[59] Anna Stachurska, Ryszard Kolstrung, Miroslaw Pięta and Piotr Silmanowicz, "Hoof Size as Related to Body Size in the Horse (Equus Caballus)," *Animal Science Papers and Reports* 29/3 (2011).

[60] Margaret Derry, *Horses in Society A Story of Animal Breeding and Marketing Culture, 180–1920* (Toronto, 2016), xii; Ann Hyland, *The Medieval Warhorse: From Byzantium to the Crusades* (Stroud, 1996), 86.

[61] Edyta Pasicka, "Polish Konik Horse-Characteristics and Historical Background of Native Descendants of Tarpan," *Acta Scientiarum Polonorum – Medicina Veterinaria* 12/2–4 (2013), 25–38.

Twenty-three of the 'European' shoes from the Kingdom of Jerusalem could be measured. When possible, they were measured physically, otherwise photographs were used. Horseshoes of which more than half was preserved were reconstructed, based on the inner and outer curve and nail holes. The calculated shoulder heights indicate that the shoes belonged to relatively large horses (Figure II.10.8). The London horses were probably packhorses or riding horses and not warhorses.[64] Some of the widest horseshoes from the Kingdom of Jerusalem (over 12.5 cm) probably belonged to warhorses. The other horseshoes belonged to pack or riding horses.

We would expect to find smaller horseshoes at domestic sites, like cities and villages, but this is confirmed only partially. This is the case at Ḥorbat Burin and from locations inside the city of Acre. But at the rural sites of Ḥorbat Uẓa and Bet Zeneta very large horseshoes were found. Other sites are expected to yield bigger horseshoes because they are associated with military activity. 'Atlit, Belvoir, the Hospitaller compound and a camp site outside of Acre yielded big horseshoes. Smaller horseshoes and mule/donkey shoes were also found at these sites, but this is not surprising, as pack horses, riding horses, mules and donkeys were very important for an army and thus can be expected at military sites. The absence of large horseshoes at Montfort and Vadum Iacob could be explained by the small sample.

Twelve donkey shoes and one mule shoe were identified in the study. Four partly preserved shoes are included based on their width only. There are three partly preserved horseshoes with similar width, but for which the length could not be measured. Statistically it is more likely they were donkey shoes, rather than horseshoes. The 12 donkey shoes have a width of 68–85 mm. The relation between shoulder height and hoof width for donkeys has not been researched. The phenotypes of donkeys are less diverse than those of horses, and the correlation must be rather strong. From collected data for 69 modern-day donkeys, a reasonable correlation was established (Figure II.10.9). It can now be estimated that average modern-day donkeys with a hoof width of 68–85 mm are between 109 and 126 cm high. Skeletal remains of ancient and medieval donkeys have shown they were not that large.[65] A single shoe found that has a ratio of over 1.30 but which is 100 mm

---

[62] Clark, "Horseshoes," 98.

[63] James, "Physical Remains of Medieval Horses," 22.

[64] Davis, *The Medieval Warhorse*, 78.

[65] Hadas Motro, *Medieval Equids in the Southern Levant: Methods for Characterizing Species and Breed*, PhD Diss. (The Hebrew University, 2014), 51.

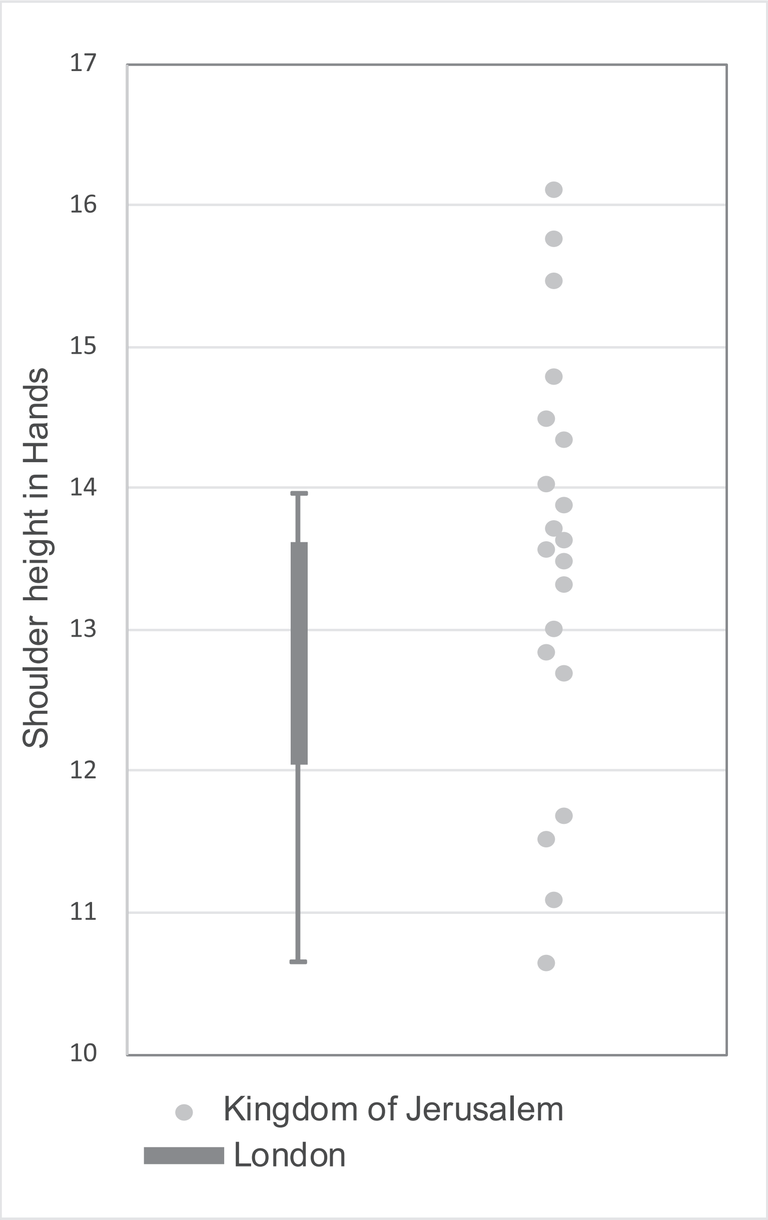


Figure II.10.8 Shoulder heights of horses, based on the width of the horseshoe. © J. Gosker

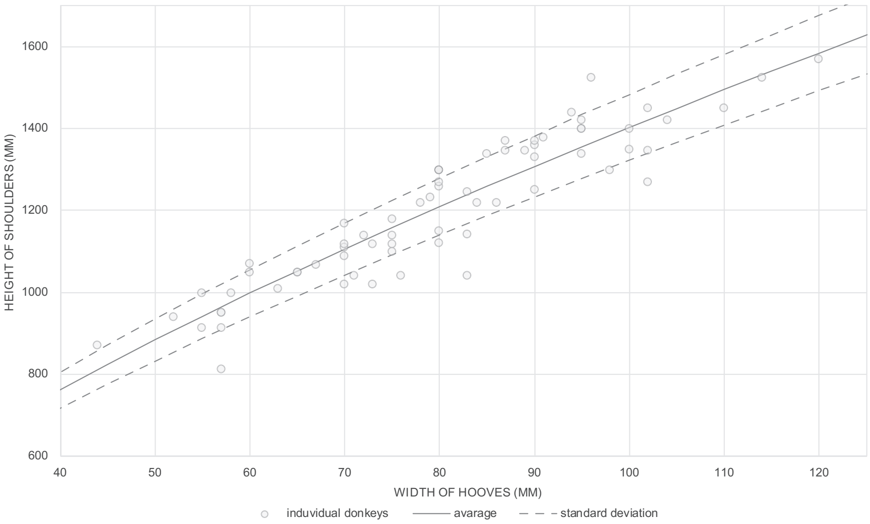


Figure II.10.9 Shoulder heights of modern-day donkeys, based on the width of their hooves. © J. Gosker

wide would imply a modern donkey that is c. 140 cm high, so it is more likely that this shoe belonged to a large, c. 147 cm high mule, based on the data obtained for 27 modern mules.

Conclusions

After thoroughly examining the manner in which horseshoes are entangled it is now possible to draw some general conclusions. When the Crusaders rode their shod horses to the East they did not introduce a new idea. Historical sources show that the Byzantines and Muslims had known the horseshoe since the ninth century, even though the archaeological record of the Levant shows only two pre-twelfth-century horseshoes found together in Tiberias. Being tightly entangled with many other objects, humans and ideas, the use of horseshoes created many dependencies. When the Crusader states were created and Europeans settled in the Levant, some of these dependencies were broken. There is no evidence that horses were used in agriculture in the Crusader kingdoms, but stable conditions and fodder quality were likely not better than in Europe. Other dependencies, that might not have played a role in the initial adoption of horseshoes but became important to keep using them after, remained in place. It was probably most important that the idea of using horseshoes was commonplace and that it was entangled with the presence of farriers and heavy cavalry. Therefore, the Franks continued to use horseshoes in the East. The archaeological evidence for this is found in the 76 horse and donkey shoes found in the Kingdom of Jerusalem.

Veterinarian guidebooks indicate that in the Mamluk period horse and donkey shoes were more common than before, as is attested also by several horseshoes from the period. Still, the Mamluks did not adopt the horseshoe on the same scale. The moderate use of horseshoes by the Mamluks may have been influenced by their interaction with Franks, as well as by the introduction of more heavily armed horsemen in the Mamluk armies.

A distinction must be made between donkey, mule and horseshoes. Based on their width/length ratio and their absolute size, this distinction can be made with reasonable certainty for most shoes. This development illustrates how donkeys got entangled with European actors as iron shoes and farriers.

Horseshoe typology and the dating of distinct features of horseshoes in Europe can be used to confirm the general date of horseshoes from the Kingdom of Jerusalem, but not to differentiate between the twelfth and the thirteenth centuries, or intra-site differences.

The size of the horseshoes and thus horses in the Kingdom of Jerusalem are quite diverse. It is likely that horseshoes wider than 12.5 cm belonged to warhorses of over 14.2 hands high, the smaller ones belonged to pack horses. The donkeys were 108–126 cm high. Only one shoe was found that belonged to a mule, which was c. 146 cm high.

11 On the significance of small finds

Two new mother-of-pearl cross-pendants from ʿAtlit and their wider context

Simon Dorso,[1] *Yves Gleize*[2] *and Élise Mercier*[3,4]

During the hot month of August 2016, one of the authors (S.D.) had the opportunity to join the excavations at Montfort Castle. He remembers vividly how, while he was slowly digging his way through one of the north-eastern outer towers in the company of Rafi, Rabei and the other excavators, Adrian Boas was carefully and patiently registering and sorting the many small artefacts found inside and outside the building. Undoubtedly, one of Adrian's major contributions to the field is the unprecedented and wide-ranging attention he dedicated to the "Crusader" material culture. In his now classical and recently re-edited volume on the subject, Adrian devotes two pages to pendant-crosses found in what was once the Latin Kingdom of Jerusalem.[5]

The wearing of cross-pendants was presumably widespread among both Oriental and Latin Christians. Depending on whether one chose to make it visible or not, it could have been regarded as a public marker of faith and religious belonging – evoking the "external symbol of the Crusader's status" (*cruce signati*); while also perceived as a more intimate piece of jewellery, perhaps valued for its beauty as an ornament, or for its special meaning as a reminder (for instance of a pilgrimage to the Holy Places) or even as a prophylactic artefact (due to the material from which it was carved or because it incorporated a relic).[6] Usually of small size,

---

[1] Université Lyon 2, UMR 5648 CIHAM.

[2] Inrap, UMR 5199 PACEA University of Bordeaux.

[3] Université de Poitiers, EA 3811 HeRMA.

[4] The authors thank Liza Lurie (Israel Museum) and Alegre Savariego (IAA, Rockefeller Museum) for providing information and access to the items in their respective institutions, and Naomi Paz for the linguistic editing.

[5] Adrian J. Boas, *Crusader Archaeology. The Material Culture of the Latin East* (London, 1999, 2nd ed., 2016), 171–172.

[6] On the wearing of the cross and its symbolic meaning in the context of the Crusades, see James A. Brundage, "'*Cruce signari*': The Rite for Taking the Cross in England," *Traditio* 22 (1966), 289–310; Jonathan Riley-Smith, *The First Crusade and the Idea of Crusading* (London and New York, 2001), 24–25, 113–114; Giles Constable, "The Cross of the Crusaders," in *Crusaders and Crusading in the Twelfth Century* (Abingdon and New York, 2008), 45–91; Cecilia Gaposchkin,

DOI: 10.4324/9781003146926-12

such pendants transcended gender and social classes. They could be highly valuable or very cheap, made from rare or from common materials. Those found in the Kingdom of Jerusalem are often in bronze, sometimes adorned with semi-precious stones or glass or, less frequently, in mother-of-pearl; and one can assume that some were also created in stone, bone or wood, whose conservation is uneven.[7] Such a cross-pendant could be a unique piece of work or one of many identical pieces cast from the same mould.[8]

To this day, although the total number of cross-pendants firmly attributed to the period of the Crusades and uncovered during excavations remains unknown, they have been found in various contexts in domestic areas, in castles as well as in graves. The finding of two new items in the ʿAtlit cemetery adds to our current knowledge on their use and meaning and on mother-of-pearl craftsmanship in Palestine prior to the modern period. More generally, it allows us to consider an undocumented aspect of the relations between the town and its *extra-muros* funerary area, and contributes to the discussion on pilgrimage material culture.

Two cross-pendants from ʿAtlit cemetery and their context of discovery

ʿAtlit cemetery, the best-preserved and largest funerary area of the Latin East (ca. 1,900 graves identified from the surface only), covers ca. 0.8 ha on the northern coast of Israel, immediately north of the castle and *burgus* of Chastel-Pèlerin, founded during the Fifth Crusade (1217) (Figure II.11.1). The cemetery was discovered in the 1930s by Cedric Norman Johns, who exposed, documented and

---

Invisible Weapons. Liturgy and the Making of Crusade Ideology (New York, 2017), 72–87. On the protective dimension of cross pendants, see Sam Cleymans and Peter Talloen, “Protection in Life and Death: Pendant Crosses from the Cemetery of Apollo Klarios at Sagalassos, Turkey,” *European Journal of Archaeology* 21–2 (2018), 280–298.

[7] Two mother-of-pearl cross pendants, however differing from ʿAtlit crosses, were excavated in Jabal Harun pilgrim hostel, possibly dating from the thirteenth century, see Brigitte Pitarakis, “The Crosses,” in *Petra – The Mountain of Aaron II. The Nabataean Sanctuary and the Byzantine Monastery*, eds. Z. T. Fiema, J. Frösen and M. Holappa (Helsinki, 2016), col. figure 20–1, 2. For examples of bronze cross-pendants, see Arlotte Douglas Tushingham, *Excavations in Jerusalem, 1961–1967* (Toronto, 1985), 346, 423 (Figure 71–21); Kenneth G. Holum, *King Herod’s Dream. Caesarea on the Sea* (New York and London, 1988), 218 (figure 160), 224 (figure 166), 288 (mention of a stone cross as a grave good); Bellarmino Bagatti, *Emmaus-Qubeibeh. The Results of Excavations at Emmaus-Qubeibeh and Nearby Sites (1873, 1887, 1890, 1900–1902, 1940–1944)* (Jerusalem, 1993), 165–166 (figure 66). Note that at least two bronze cross-pendants (items 47.1333 and 47.1335) were discovered by Johns in graves from ʿAtlit cemetery (Jennifer Thomson, *Death and Burial in the Latin East. A Study of the Crusader Cemetery at ʿAtlit, Israel*, Unpublished PhD Diss. (Cardiff, 2006), 183. One of them is a “Greek” cross with arms ending in the very common *trifolium* shape, resembling pendants from Sebaste (IAA 933.229, Israel Museum), Caesarea (Kenneth G. Holum, *King Herod’s Dream . . .*, 224 (fig.66)).

[8] A mould to cast small metal cross pendants was discovered in al-Kurūm (IAA 1999.1785, Israel Museum).

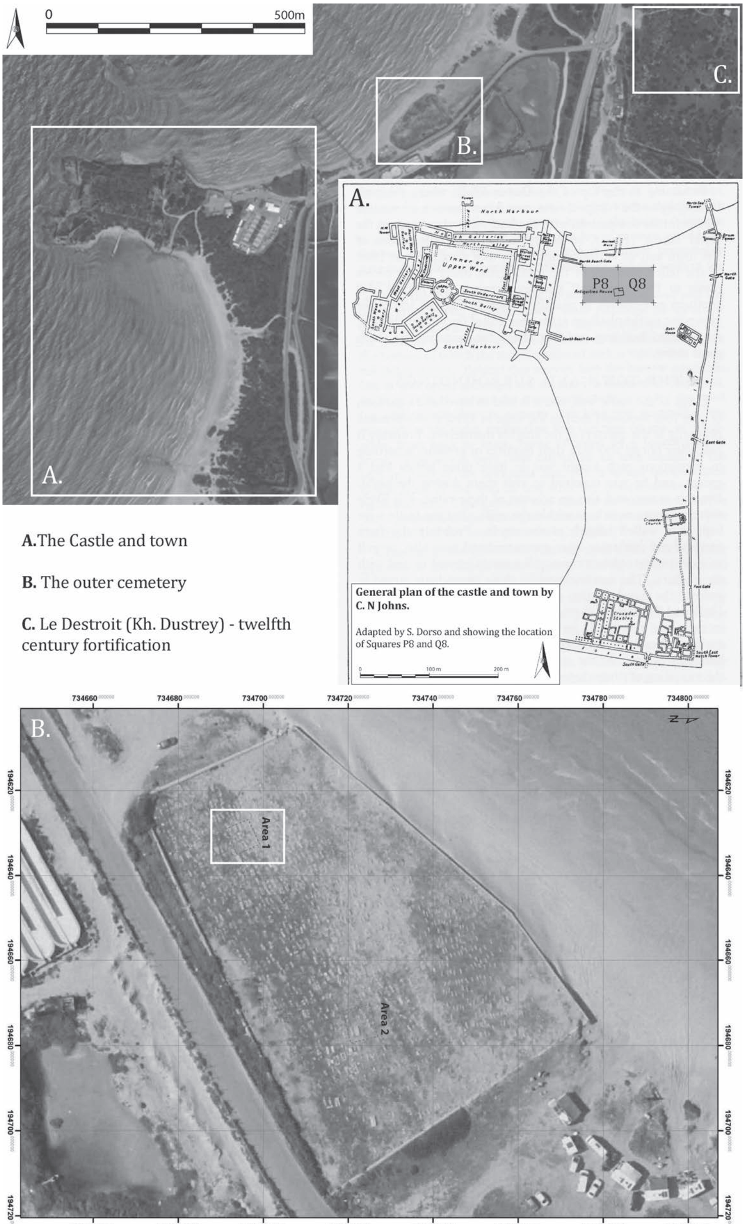

0
500m
A.
B.
C.
A.The Castle and town
B. The outer cemetery
C. Le Destroit (Kh. Dustrey) - twelfth century fortification
North Harbour
Inner or Upper Ward
South Harbour
P8
Q8
Antiquities House
Crusader Church
Crusader Stables
South Gate
East Gate
General plan of the castle and town by C. N Johns.
Adapted by S. Dorso and showing the location of Squares P8 and Q8.
0
100 m
200 m
734660
734680
734700
734720
734740
734760
734780
734800
194620
194640
194660
194680
194700
194720
Area 1
Area 2

Figure II.11.1 Aerial views and plan of ʿAtlit castle, town (A) and outer cemetery (B). © authors

restored many of the tombs but did not proceed to full-scale excavations, focusing instead primarily on the castle and its adjoining town.[9] Excavations at the site resumed in 2015 under the direction of Dr Yves Gleize, in collaboration with the Israel Antiquities Authority and with the support of the local council and community.[10] Since its initial discovery by C. N. Johns, the north-west corner of the cemetery has completely disappeared due to natural erosion and the increasing encroachment of the beach. The entire site is now threatened by the incursion of the sea, and the recent damage caused by the 2019 winter storms further demonstrates the urgent need for archaeological intervention and protection measures.

Within the scope of our excavation project three areas were designated inside the cemetery in order to determine its internal organisation and chronology, while applying the most advanced methods to understanding its population and funerary practices.

The two pendants discovered during our 2019 season were found in Area 1, situated in the south-west part of the cemetery. Only one of them was found in a stratigraphical context: it was uncovered in grave S1SP24, which consists in a single primary burial marked on the surface by several stones, including a *spolia*. The burial follows a south-west–north-east orientation similar to the majority of the graves in Area 1. The grave, a simple pit originally sealed by a cover of wooden planks, caused damage to an earlier burial (S1SP21), indicating a relatively late event in the short sequence of the cemetery (in use only during the thirteenth century) (Figure II.11.2).

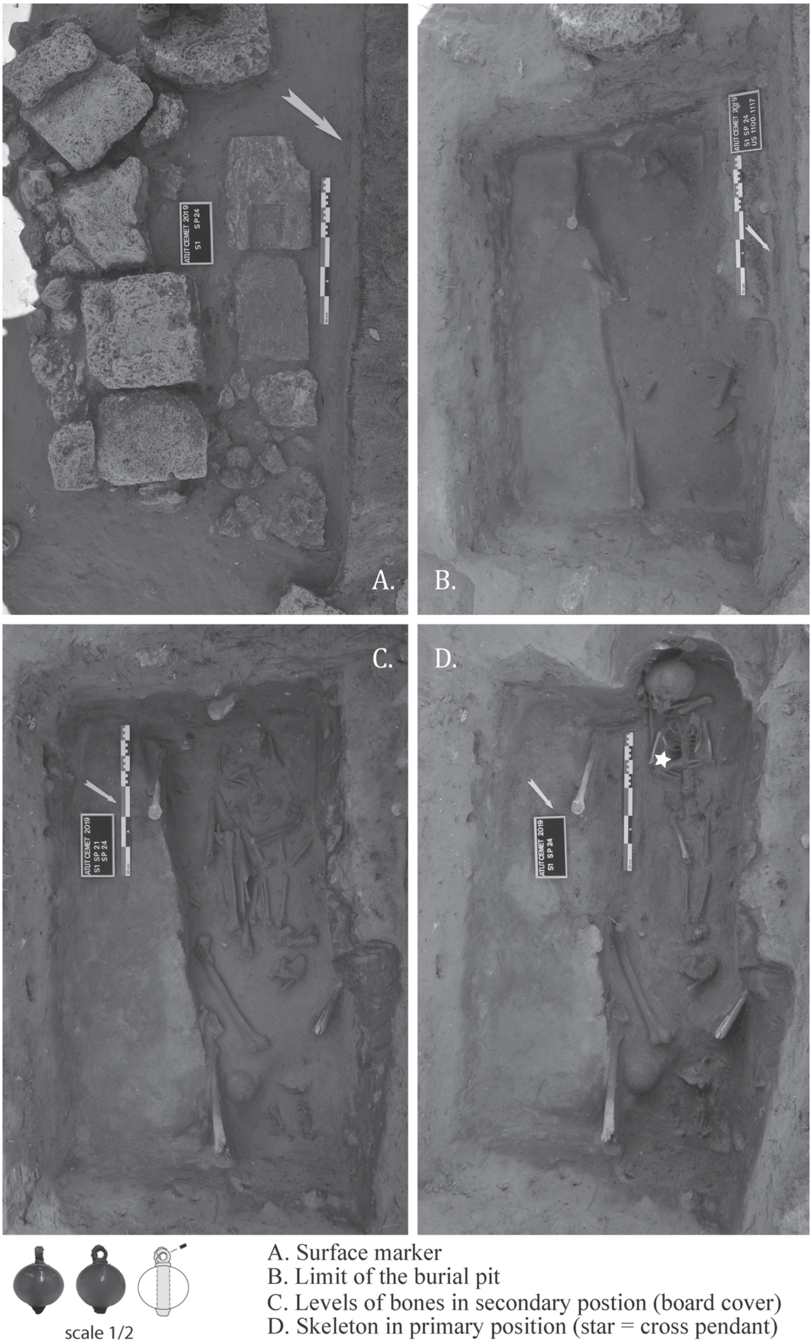
This relative chronology is further supported by the numerous bones in secondary position as well as scattered potsherds from the fill of S1SP24, which include glazed wares of Italian provenance. The pendant was found beneath the right hemithorax and between the right humerus and ribs of an immature individual, alongside another pendant made of a rock-crystal bead hung from a copper alloy ring (Figure II.11.2 and Figure II.11.3). The deceased youngster (between four and nine years old), was lying on the back with the head turned to the south-west and hands crossed over the abdomen. The direction of the face towards the east can be attributed to the body's decay in an empty environment. Due to its young age, it was not possible to identify the sex of the subject, whose skeleton did not present any noticeable pathology.

The second cross-pendant was found on the surface during the backfilling of the area, at some distance from the rubble piles, and its worn appearance suggests that

---

[9] See Cedric N. Johns, *Pilgrims' Castle (ʿAtlit), David's Tower (Jerusalem) and Qalʿat ar-Rabad (ʿAjlun)*, ed. Denys Pringle, 2nd ed. (London, 2019).

[10] Yves Gleize, Mathieu Vivas, Simon Dorso and Dominique Castex, "Le cimetière d'Atlit, un espace des morts au pied de Château-Pèlerin (royaume latin de Jérusalem – XIIIe siècle)," in *Les vivants et les morts dans les sociétés médiévales. XLVIIIe Congrès de la SHMESP* (Paris, 2018), 187–204; Yves Gleize and Simon Dorso, "ʿAtlit, Crusader Cemetery: Preliminary Report," *Hadashot Akheologiyot* 131 (2019). Yves Gleize, "Archaeothanatology, Burials and Cemeteries: Perspectives for Crusader Archaeology," in *Crusading and Archaeology*, eds. V. Shotten-Hallel and R. Weetch (London and New York, 2021), 284–299.


A.
B.
C.
D.
ATUT CEMET 2019
S1 SP 24
ATUT CEMET 2019
S1 SP 24
US 1100-1117
ATUT CEMET 2019
S1 SP 21
SP 24
ATUT CEMET 2019
S1 SP 24
scale 1/2

A. Surface marker
B. Limit of the burial pit
C. Levels of bones in secondary postion (board cover)
D. Skeleton in primary position (star = cross pendant)

Figure II.11.2 View of burial S1SP24 during the excavations. © authors

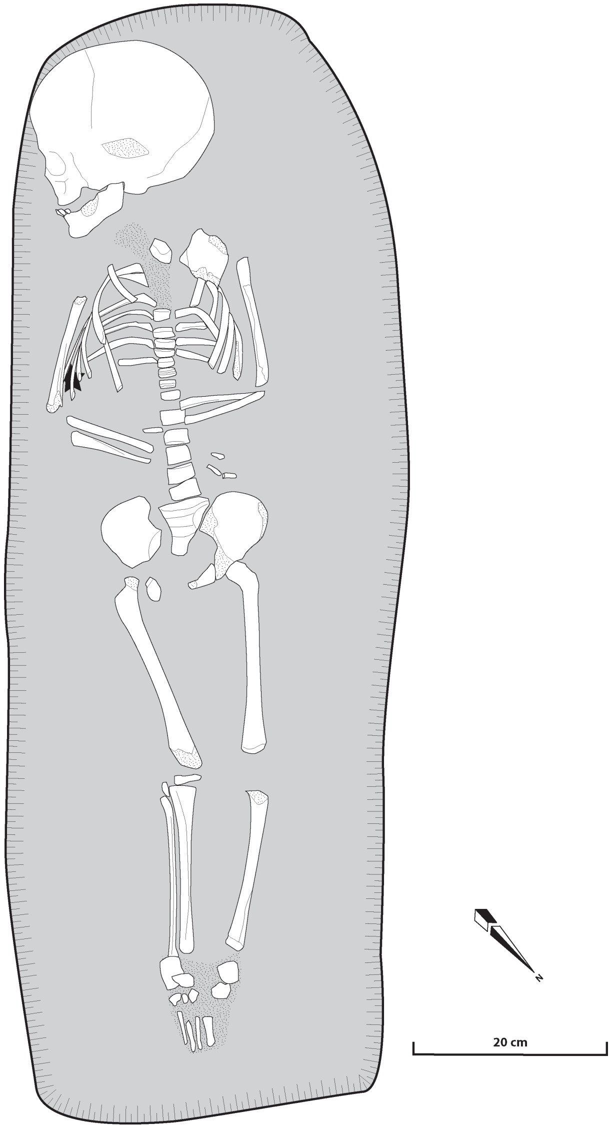


Figure II.11.3 Drawing of burial S1SP24 showing the location of the cross-pendant (star). © authors

it may have been exposed to the elements for some time, although it is uncertain as to whether it was originally on the surface or had come from a grave excavated during the season and had escaped the attention of the excavators. If the latter, although unfortunate, its small size provides extenuating circumstances for its having been overlooked.

The 2019 mother-of-pearl pendants

The mother-of-pearl pendant from burial S1SP24 measures 45 x 33 x 6 mm and is therefore almost twice the size of the second pendant, discovered on the surface (22 x 19 x 4.5 mm). Despite the difference in size, the two pendants present many similarities (Figure II.11.4:1 and 2). Both were worked from a single piece of shell, which was first sawn to obtain the desired shape and then further worked with small tools through direct cutting and carving, as evidenced in the recurrent irregularities. While their decor is simple, consisting of incised lines and geometrical motives, considering the small size of the pieces they nonetheless required a certain skill and meticulousness as despite the relative hardness of the material, its shiny surface tends to flake.

The crosses are of the "Greek" type, with equal arms underlined by a slightly projecting band at their base and terminating in a triangular point. On the larger cross, the central part at the junction of the arms features a sophisticated decoration, comprising a net pattern on one side and a geometrical motive of four segments forming a central rhombus on the other side. On the smaller cross, the square area at the intersection of the two arms has been left untouched. The pendants were hung or attached via a narrow channel (2 mm in diameter) drilled laterally through a protrusion of the upper arm of the cross. The pendants might thus have been suspended from a person's neck or sewn into a piece of fabric or article of clothing.

The pendants discovered by C. N. Johns: products of a unique workshop?

Mother-of-pearl cross-pendants are not an unusual find in ʿAtlit, with C. N. Johns having found nine of them, seven inside the town walls and two in the outer cemetery (Figure II.11.4:3–11).[11] With the 11 mother-of-pearl cross-pendants found to date, ʿAtlit has provided by far the largest collection of such artefacts for the period of the Crusades in the Latin East. An incomplete rosary was found in a grave from Caesarea in the southern part of the stadium in 2003 (Figure II.11.4:14), and two other pendants were discovered in Acre (Figure II.11.4:12)[12] and, very recently, in Jaffa (Figure II.11.4:13).[13] All of these can be attributed to a thirteenth-century context, with the Jaffa cross being mixed with Late Ottoman finds.

---

[11] Items 34.161 (= 47.1334) and 34.75. The latter was found broken and does not appear on figure 4, see Jennifer Thomson, *Death and Burial in the Latin East . . .*: appendix 1, Hanna Rose Buckingham, *Identity and Archaeology in Daily Life: The Material Culture of the Crusader States*, Unpublished PhD Diss. (Cardiff, 2016), 35–36. On Johns' pendants, see Silvia Rozenberg, "Metalwork and Crosses from the Holy Land," in *Knights of the Holy Land*, ed. Silvia Rozenberg (Jerusalem, 1999), 117–119; Avinoam Shalem, "The Poetics of Portability," in *Histories of Ornaments. From Global to Local*, eds. G. Necipoglü and A. Payne (Princeton and Oxford, 2016), 259–260; Liza Lurie, "Drei kleine Kreuzhanhänger," in *Byzanz und der Westen, 1000 vergessene Jahre* (Schallaburg, 2018), 191.

[12] Item IAA 2013–574. The Acre cross-pendant was discovered during excavations at the site of the current Knights Hotel, Area A. It was associated with the inner floor (locus 152) of a thirteenth-century domestic building which also yielded many iron nails, three coins (including one minted in Tripoli during the thirteenth century) as well as medieval pottery. The same locus also revealed several copper alloy artefacts, including two mounts, a buckle plate, and a pin. Our thanks to Danny Syon, director of the excavations, for sharing this information before its final publication. For a preliminary report, see

Mother-of-pearl cross-pendants were known in both the West and the East even before the Crusades, presenting a great diversity of shape and size.[14] It has been argued that the shell material, relatively abundant along the shores, was cheaper than metal and that many mother-of-pearl pendants imitated the shapes and decorations of bronze or more valuable metal pendants. Several facts support the idea that Johns' crosses, as well as the two pendants uncovered in the cemetery, were manufactured in the same workshop. First, all the pendants but two (Figure II.11.4:3 and 10) seem to have been carved following one of three models:

Type 1 (Figure II.11.5:2, 4–13) groups the smaller crosses, which present a central square body with slightly thinner projecting arms terminating in broader triangular points underlined by a band. We suggest that the fragmentary pendant from Jaffa also belongs to this type and should be regarded as residual "Crusader" material.

Type 2 (Figure II.11.4:1, 8, 9) groups larger crosses with arms equalling the width of the body, terminating in triangular points underlined by a band or a lateral incision. The central parts of these crosses are decorated with geometric designs or cross-like incisions.

Type 3 (Figure II.11.4:11, 12) groups simpler crosses, without relief but with arms broadening at the end. We suggest that the Acre pendant belongs to this type, although it is slightly more sophisticated, with crossed incisions on one side and arms terminating in small points resembling the protrusions through which most of the ʿAtlit pendants are attached. Although thicker, the exemplar from ʿAtlit now displayed in the Rockefeller Museum was also attached by such a protrusion, which broke at some point, perhaps before it had received its decoration.

On several items from both types, the hanging end presents a specific shape somewhat resembling the biretta (lat. *Beritum*). It has been suggested that this shape may have intended to evoke the dome of the Holy Sepulchre or its aedicule.[15]

When compared to the wide range of possibilities and to the diversity of contemporary mother-of-pearl crosses, the homogeneity of the ʿAtlit corpus is obvious. Such a similarity of shape and decoration is hardly coincidental. The crosses

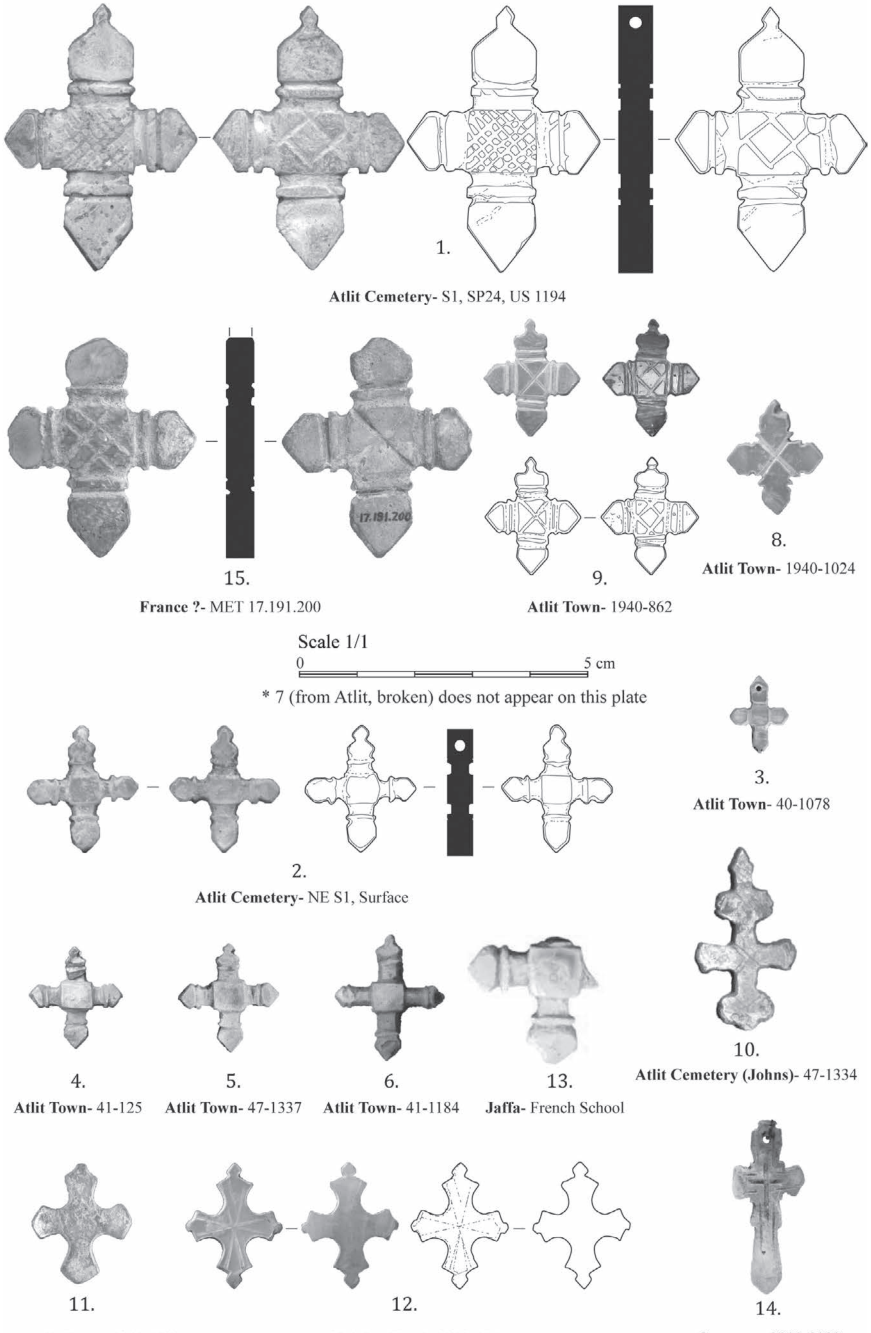
---

Danny Syon, "ʿAkko, the Knights Hotel: Preliminary Report," *Hadashot Arkheologiyot* 122 (2010). Interestingly, the same site also had a workshop manufacturing pilgrims' ampullae; see Danny Syon, "Souvenirs from the Holy Land: A Crusader Workshop of Lead Ampullae," in *Knights of the Holy Land: The Crusader Kingdom of Jerusalem*, ed. S. Rozenberg (Jerusalem, 1999), 110–115.

[13] The pendant from Jaffa comes from excavations in the French School compound. It was uncovered among the nineteenth-century remains of a former Catholic school, mixed with Crusader-context material, including four unworked shells from the Red Sea. Our thanks to Yoav Arbel, director of the excavations, for sharing this information before its final publication. For a preliminary report, see Yoav Arbel, "Yafo, the French School: Preliminary Report," *Hadashot Arkheologiyot* 130 (2018).

[14] See, for instance, Daniel T. Potts, "Nestorian Crosses from Jabal Berri," *Arabian Archaeology and Epigraphy* 5 (1994), 63.

[15] Robert Spirģis, "Finds in Latvia of 13th-Century Pilgrims' Crosses from the Holy Land," *Journal of Historical Archaeology & Anthropological Sciences* 3–3 (2018), 494–495.



1\.

Atlit Cemetery- S1, SP24, US 1194

15\.

France ?- MET 17.191.200

9\.

Atlit Town- 1940-862

8\.

Atlit Town- 1940-1024

Scale 1/1

0 5 cm

* 7 (from Atlit, broken) does not appear on this plate

3\.

Atlit Town- 40-1078

2\.

Atlit Cemetery- NE S1, Surface

10\.

Atlit Cemetery (Johns)- 47-1334

4\.

Atlit Town- 41-125

5\.

Atlit Town- 47-1337

6\.

Atlit Town- 41-1184

13\.

Jaffa- French School

11\.

Atlit Town- 1941-176

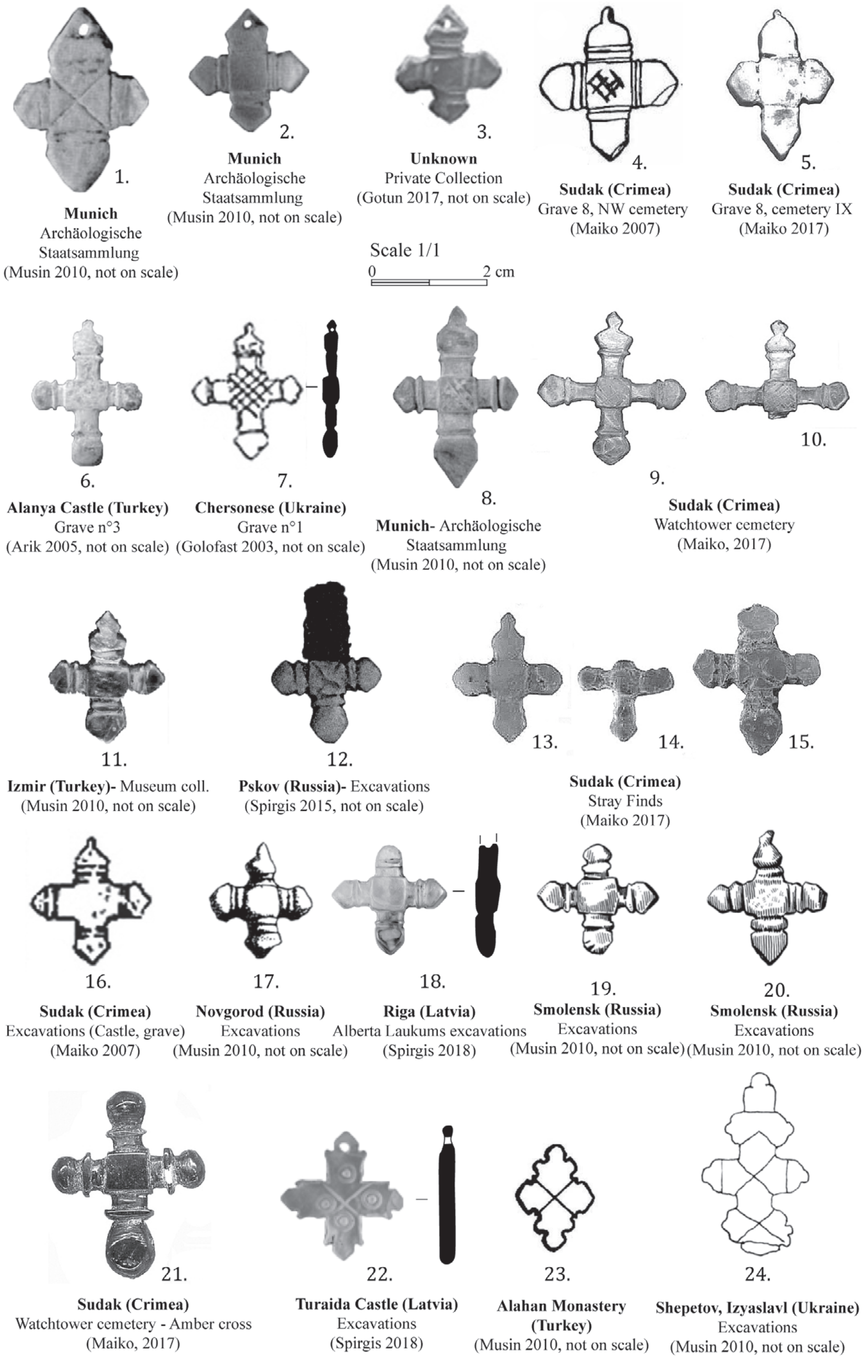
12\.

Acre Knights Hotel- 2013-574

14\.

Caesarea- 2003-9099

Figure II.11.4 Mother-of-pearl cross-pendants from the Kingdom of Jerusalem. S. Dorso/IAA



1. **Munich** Archäologische Staatsammlung (Musin 2010, not on scale)

2. **Munich** Archäologische Staatsammlung (Musin 2010, not on scale)

3. **Unknown** Private Collection (Gotun 2017, not on scale)

4. **Sudak (Crimea)** Grave 8, NW cemetery (Maiko 2007)

5. **Sudak (Crimea)** Grave 8, cemetery IX (Maiko 2017)

6. **Alanya Castle (Turkey)** Grave n°3 (Arik 2005, not on scale)

7. **Chersonese (Ukraine)** Grave n°1 (Golofast 2003, not on scale)

8. **Munich**- Archäologische Staatsammlung (Musin 2010, not on scale)

9. 10. **Sudak (Crimea)** Watchtower cemetery (Maiko, 2017)

11. **Izmir (Turkey)**- Museum coll. (Musin 2010, not on scale)

12. **Pskov (Russia)**- Excavations (Spirgis 2015, not on scale)

13. 14. 15. **Sudak (Crimea)** Stray Finds (Maiko 2017)

16. **Sudak (Crimea)** Excavations (Castle, grave) (Maiko 2007)

17. **Novgorod (Russia)** Excavations (Musin 2010, not on scale)

18. **Riga (Latvia)** Alberta Laukums excavations (Spirgis 2018)

19. **Smolensk (Russia)** Excavations (Musin 2010, not on scale)

20. **Smolensk (Russia)** Excavations (Musin 2010, not on scale)

21. **Sudak (Crimea)** Watchtower cemetery - Amber cross (Maiko, 2017)

22. **Turaida Castle (Latvia)** Excavations (Spirgis 2018)

23. **Alahan Monastery (Turkey)** (Musin 2010, not on scale)

24. **Shepetov, Izyaslavl (Ukraine)** Excavations (Musin 2010, not on scale)

Figure II.11.5 Mother-of-pearl cross-pendants found outside the Levant.

also present certain recurrent irregularities that hint at a unique workmanship. For instance, the drilled extremity through which the pendants were attached all reveal an absolutely identical treatment. Not only is the shape similar, but the slightly thinner junction between the point and the arm is always deeper on one side, suggesting the work of a unique hand.

Evidence of a workshop in Squares P8–Q8

All the pendants discovered by Johns in the town originate from the same limited area (squares P8–Q8) Figure II.11.1: A.[16] Given that the other mother-of-pearl pendants found outside ʿAtlit were all single finds, such a high concentration of relatively rare and, in this case, very similar artefacts, is unusual enough to draw attention. It seems quite unlikely that a single person would have hoarded as many as seven pendants, or that a group would have abandoned or lost all its pendants in the same place. It makes more sense to consider that Johns' collection represents the production of a workshop or the stock of a store. Unfortunately, the report of the British archaeologist on this area is relatively poor and we must rely mostly on a few general pictures of his excavation area.

A review of the other finds from squares P8 and Q8 also suggests that mother-of-pearl jewellery was not the only production in the area. Johns identified a potter's kiln from the thirteenth century and noted the relative profusion of bronze artefacts, such as pins, belt buckles, "aiglets", "charms" and "tiny boot buttons", used to decorate clothing.[17] The same squares also delivered many artefacts made of animal bones, including not one but a series of bone belt buckles, some broken and/or unfinished, gaming dies, a comb, a whetstone and what may be a ruler carved in stone (Figure II.11.6:1–13).[18] Work in shell and mother-of-pearl is often recorded in workshops specialising in other hard materials of animal origin, and one can assume that there was a workshop or store in Chastel-Pèlerin that produced such merchandise. This hypothesis is supported by another mother-of-pearl artefact: a very small, engraved plaque that Johns considered to be an inlay element (IAA 41.177, Figure II.11.6:16). The other items from the area include a unique heart-shaped artefact made of ivory that, once finished, may well have

---

[16] Today in display at the Rockefeller Museum.

[17] Johns, *Pilgrims' Castle (ʿAtlit)* . . .: 5, III–137, IV–147–149. Such tiny "boot buttons" were also discovered in one of the ʿAtlit graves excavated in 2019 along the radii of a skeleton.

[18] The steatite whetstone (item 40.1208, Rockefeller Museum) and the ruler (item 41.95, Rockefeller Museum) might have been used in the workshop. A bone die was also found by Johns in the outer cemetery. Two broken bone rings (items 40.1022 and 40.1023, Rockefeller Museum) are similar to those found on the sacrum of a skeleton from a grave excavated in 2017 in the Crac des Chevaliers, confirming their identification as belt buckles (Teofil Rétfalvi, "Burials in Crac des Chevaliers Excavated in 2017," in *Bridge of Civilizations: The Near East and Europe c. 1100–1300*, eds. Peter Edbury, Denys Pringle and Balázs Major [Oxford, 2019], 84, figure 6.4.).

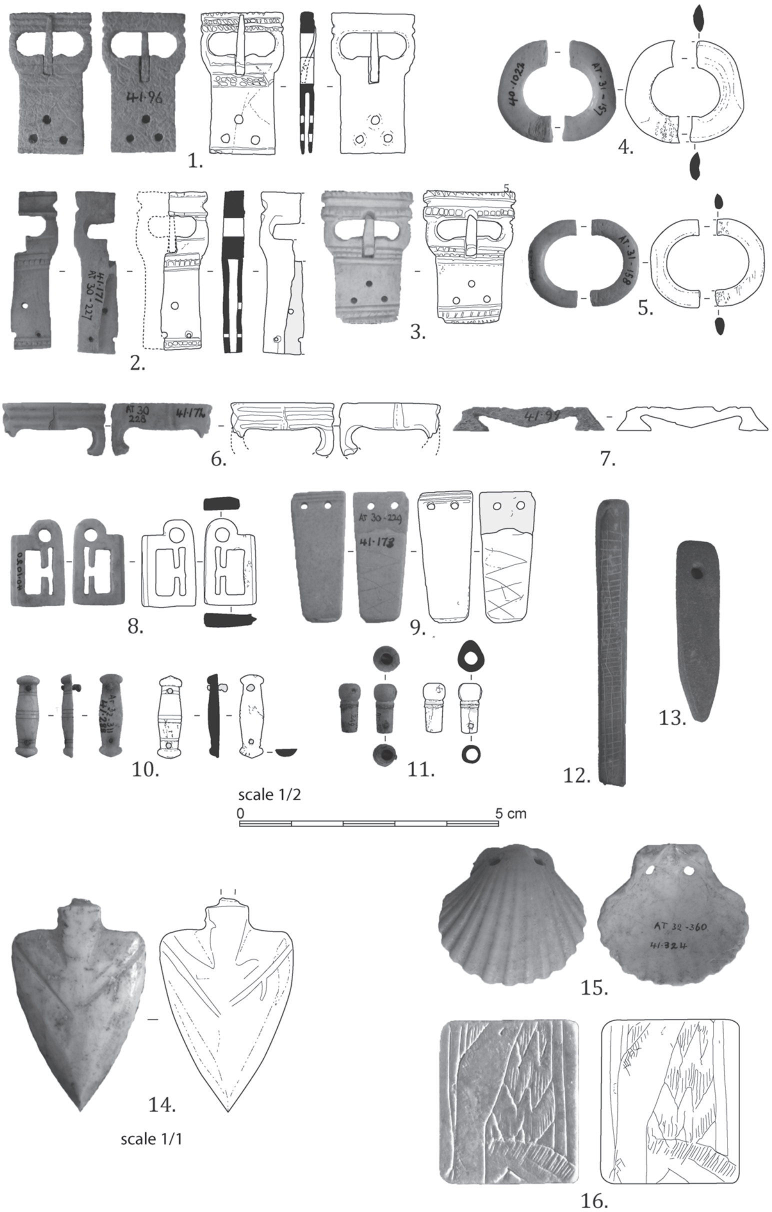

41·96
1.
40·1022
AT·31·157
4.
41·171
AT 30·227
2.
3.
AT·31·158
5.
AT 30
228
41·174
6.
41·97
7.
8.
AT 30-229
41·178
9.
10.
11.
12.
13.
scale 1/2
0
5 cm
AT 32 -360
41·324
15.
14.
scale 1/1
16.

Figure II.11.6 A selection of artefacts created in hard material of animal origin from squares P8 and Q8 (ʿAtlit Town, Johns Excavations). © S. Dorso/IAA

been intended to serve as a pilgrim badge of some sort (Figure II.11.6:14).[19] Heart-shaped badges were relatively common in the medieval West, and an unpublished medieval pilgrim ampulla from Banyas, now on display at the Israel Museum, is also decorated with a heart surmounted by a springing fleur-de-lis and with the letter I in its centre.[20]

The previous body of evidence suggests that the northern part of the town, between the castle and the outer cemetery to which it was connected through a gate and a small bridge, not only hosted what Johns referred to as "Crusader houses" but possibly also an industrial area where pottery as well as artefacts in metal, animal bones and shell were produced. Given the number and homogeneity of the cross-pendants from ʿAtlit, one may assume that they came from this local workshop.

Materiality and symbolic value

Shell, and especially mother-of-pearl, artefacts were popular among Christian pilgrims because of the symbolic values ascribed to the material itself. Scallop shells were often represented on eulogia ampullae, and they are well known as pilgrim insignia, many of which have been found in "Crusader" contexts in the former Kingdom of Jerusalem.[21] Johns himself discovered one "in front of the [town] church", of which its two pierced holes evidence its use as a badge (Figure II.11.6:15).[22] In the Middle Ages, cowrie shells and coral were also used for the production of pendants. And like mother-of-pearl, they were prized for their apotropaic virtues.[23] In the Christian context, shells and mother-of-pearl were strongly associated with pearls, metaphorically linked to virginity, the Immaculate Conception and, therefore, to the Virgin Mary, following the Gospels and Early Christian literature.[24] Medieval theologians also had in mind the famous commentaries of Origen and Jerome on the parable of the Hidden Treasure and the Pearl (Matt. 13: 44–46), which associated Christ to a "pearl of great value". The metaphoric link with the Conception and Resurrection made mother-of-pearl cross-pendants an appropriate burial item.

---

[19] Today on display at the Rockefeller Museum.

[20] Item IMJ 2010.28/1, gift of Danny Syon to the Museum.

[21] For a review of similar finds in medieval Palestine, see Inbar Ktalav, "There and Back Again: A Tale of a Pilgrim Badge during the Crusader Period," in *Bones of Identity. Zooarchaeological Approaches to Reconstructing Social and Cultural Landscape in Southwest Asia*, eds. N. Marom et al. (Oxford and Havertown, 2016), 323–338. To Ktalav's inventory and map can be added the Johns' scallop shell and three more from the excavations in Jerusalem, Maale Mugrabim (personal communication of Hervé Barbé). For similar finds in France, see Sophie Vallet, "La coquille du pèlerin dans les sépultures médiévales du sud-ouest de la France: nouveaux résultats et perspectives de recherches," *Archéologie du Midi medieval* 26 (2008), 238–247.

[22] Item stored in the Rockefeller Museum (ref. 41.324), discovered "in front of the church" to the west, according to Johns' inventory card, i.e. not far from the inner cemetery.

[23] On cowrie pendants, see Annette Lennartz, "Die Meeresschnecke Cyprea als Amulett im Frühen Mittelalter. Eine Neubewertung," *Bonner Jahrbücher* 204 (2006), 163–232. On coral pendants, see Aleksandr E. Musin, "Corals in the Christian Culture of East Europe and Mediterranean Area," *Russian Archaeological Yearbook* 4 (2004), 366–387 [in Russian], Robert Spirģis, "Pilgrimage Context: Finds of Mother-of-Pearl Crosses of the 13th–17th Centuries on the Territory of Modern Latvia and Lithuania," in *In Stone and Bronze. Collection of Articles in Honor of Anna Peskova* (Saint Petersburg, 2017), 561–582 [in Russian].

Like the scallop shells found in many graves, or the pilgrim staffs (one was discovered in ʿAtlit cemetery, Area 2), the pendants too may have had a role in identifying the deceased as a pilgrim.[25] Indeed, the name of the site (Chastel-Pèlerin/*Castellum Peregrinorum*), which commemorates the participation of the Crusaders in its foundation, was not its only link to pilgrimage. ʿAtlit was located between two of the major thirteenth-century landing harbours for pilgrims: Acre and Caesarea. Although a comparatively recent site, it was rapidly integrated into a network of secondary pilgrimage sites along the coastal road to Jerusalem. Starting from 1230, several thirteenth-century pilgrims' guides mention two main objects of devotion in relation to Chastel-Pèlerin: the head of St Euphemia, which was kept inside the castle; and a Marian site, sometimes associated with Christ and the Flight into Egypt, located just outside the town.[26] The fame of the virgin saint and martyr and the miracles associated with her relics, as attested to by the Templar brothers during their trial (but which extended far beyond the Order) certainly attracted many pilgrims.[27] This interest probably increased following the restricted access to the Holy Sites imposed by the Muslim re-conquest of Palestine, which led ʿAtlit and the neighbouring sites to become substitutes for the major sanctuaries. By the second half of the 1260s, Frankish-held territories had become reduced to a narrow strip along the coast, and only the fortified cities truly constituted safe havens.[28] This, and perhaps also the overcrowding of Acre following the influx of refugees during the last decade of Frankish rule, may have led pilgrims to be buried in ʿAtlit, offering an explanation for the high density and number of graves inside the outer cemetery. Such density within such a limited time span probably exceeded what might be expected under normal circumstances from the estimated population of the *burgus*. The location of the burial ground, outside the town and therefore unprotected (in contrast to the parish church inside the walls and which possessed its own cemetery), may also have been linked to the presence of a devotional site. Specific burial grounds or charnel houses devoted to pilgrims who passed away during their journey in the Holy Land are known to have existed outside the walls of Jerusalem (Aceldama) and Acre (St Nicholas cemetery). They are depicted on medieval maps and plans of the cities.[29] The "*charner*" depicted on the Oxfordian mid-thirteenth-century map of Acre by Matthew Paris is located on the edge of St Nicholas cemetery, near the eponymous gate of Montmusard *faubourg*, not far from the *turris peregrinorum* through which processions seem to have entered the Old City during the *Pardouns*.[30] It is not beyond reason to imagine that similar processions would have taken place in Chastel-Pèlerin, with crowds of pilgrims joining the Templars at the northern gate tower of the citadel's bailey, before crossing the town through the monumentally paved "corridor" exposed by Johns and then exiting through the north gate towards the cemetery. Like in other pilgrimage centres, the location of a shop or workshop specialising in pilgrim souvenirs along this itinerary would have been very convenient and, without doubt, also very lucrative. This is indeed the case for squares P8 and Q8.

---

[24] Verena Han, "Décoration artistique de la nacre dans les pays balkaniques pendant la domination ottomane," *Balkan Studies* 24 (1983), 413–414; Beate Fricke, "Matter and Meaning of Mother-of-Pearl: The Origins of Allegory in the Sphere of Things," *Gesta* 51 (2012), 35–53; Michel Feuillet, *Lexique des symbols chrétiens* (Paris, 2017), 35–36, 87. Although he condemned the wearing of precious stones and pearls, Clement of Alexandria directly associated pearl material to Christ and to Jerusalem (*Stromates*, c. 12).

[25] Gleize and Dorso, "ʿAtlit, Crusader Cemetery . . .".

[26] Henri-Victor Michelant. *Itinéraires à Jérusalem et descriptions de la Terre Sainte* (Paris, 1882), 91, 180, 229; Phillip of Savona, *Philippi Descriptio Terrae Sanctae*, ed. W. A. Neumann (Vienna, 1872), 76; Riccold of Monte Crocce, *Pérégrinations en Terre Sainte et au Proche-Orient*, ed. and trans. R. Kappler (Paris, 1997), 72–75; Gabriele Giannini, *Un guide français de Terre sainte en Orient latin et Toscane occidentale* (Paris, 2016), 274; Denys Pringle, *Pilgrimage to Jerusalem and the Holy Land, 1187–1291* (London and New York, 2012), 17–18, 211, 352–353, 364. On the head of St Euphemia, see Helen J. Nicholson, "The Head of St Euphemia: Templar Devotion to Female Saints," in *Gendering the Crusades*, eds. H. J. Nicholson and S. Lambert (New York, 2002), 110–112. Nicholson assumed that the relic, which was taken to Cyprus and then to Malta by the Hospitallers, was stolen and lost in the Mediterranean on Napoleon's flagship *L'Orient* during the battle of the Nile in August 1798. It is possible, however, that the relic had arrived at the Order's house in Paris at least two centuries earlier. In 1607, the Parisian burgess Pierre de l'Estoile recorded in his diary that the relics of St Euphemia were offered to the Sorbonne by the Grand Master of the Knights of Malta and were brought to the Parisian college in a procession on the 28th of December 1606: Pierre de l'Estoile, *Journal du règne de Henri IV, roi de France et de Navarre*, vol. 3 (The Hague, 1871), 405–406. The relics mentioned by Pierre de l'Estoile might also have been something other than the head of the Virgin martyr. Perhaps the unspecified relics of St Euphemia sent to the West inside a piece of wood from the True Cross by the Templar Master Thomas Bérard in 1272: Alain Demurger, *Les Templiers, une chevalerie chrétienne au Moyen Âge* (Paris, 2005), 179–180.

Holy Land memorabilia: local and extra-regional networks

The inclusion of ʿAtlit on the pilgrimage route also meant its integration within the pilgrimage economy. Although ʿAtlit probably remained a secondary port for the landing of crusaders, in being a Templar stronghold one can assume that it constituted an important way station along the coast and hosted many pilgrims travelling by land. It is not surprising therefore that cross-pendants presumably manufactured in ʿAtlit would have found their way to other larger port cities, such as Acre, Jaffa or Caesarea, which were retaken by the Christians and refortified during the thirteenth century. Although, apart from Caesarea, these cities were arguably devoid of important sanctuary sites (Acre was not even considered to belong to the Promised Land), local pilgrimages were encouraged through the granting of papal indulgences.[31] Acre, the de facto capital city of the Kingdom of Jerusalem, engaged in arts and industries directed at the pilgrimage market, producing ampullae, jewellery, flasks, reliquaries, portable icons and other memorabilia.[32] The iconography and shapes of these objects were adapted to the current demand and to the new sites of devotion, which often lacked any canonical traditions.[33]

---

[27] Jules Michelet, *Procès des Templiers* (Paris, 1841), 144–145; *Codex processus Cyprici* in Konrad Schottmüller, *Der Untergang des Templer-ordens*, vol. 2 (Berlin, 1887), 209; Malcolm Barber, *The Trial of the Templars* (Cambridge and New York, 2006), 244.

[28] For a topographical description based on the treaties with the Mamelukes, see Rabei Khamisy, "The Templar Estates in the Territory of Acre," *Ordines Militares* 18 (2013), 267–285 and Id., "The Treaty of 1283 between Sultan Qalāwūn and the Frankish Authorities of Acre: A New Topographical Discussion," *Israel Exploration Journal* 64 (2014), 72–102.

[29] See, for Jerusalem, The Hague, Kr. Bib. Ms. 76F, f. 1r; Brussels, Bib. Royale, Ms. 9823–98234; Paris, BnF, Ms. Lat. 4939, f.10v; and for Acre: London, BL, Ms. Royal 14 CVII, f. 004v-005r; Cambridge, Corpus Christi College, Ms. 016, f. 3v.

[30] Pringle, *Pilgrimage to Jerusalem and the Holy Land . . .*: 45.

As always with pilgrimage, the local market had much larger ramifications, extending far beyond the Mediterranean to the borderlands of Christendom. Aleksandr Musin, Robert Spirģis and others have suggested that mother-of-pearl crosses found in medieval contexts in Russia, Lithuania, Latvia and elsewhere constitute evidence of pilgrimage to the Holy Land at the time of the Crusades.[34] Some pendants possibly made in ʿAtlit may indeed have arrived at other "crusading outposts", like the then recently founded Riga,[35] where a pendant-cross similar to ʿAtlit type 1 was discovered during excavations at the Alberta Laukums site (Figure II.11.5:18).[36] Recent analysis has concluded that the shell is of Mediterranean origin.[37] Other pendants too have been found in Russia, including two items similar to ʿAtlit type 1 in Smolensk and two pendants of ʿAtlit type 1 and 2 in Novgorod and Pskov (Figure II.11.5:12, 17). These finds present further evidence that the Levantine pilgrimage trade was renewed during the Crusades, with cities like Novgorod, which used to import prestigious and devotional artefacts from Byzantine Palestine, including cross-pendants carved from stone and mother-of-pearl.[38]

---

[31] David Jacoby, "Ports of Pilgrimage to the Holy Land, Eleventh-Fourteenth Century: Jaffa Acre, Alexandria," in *The Holy Portolano: The Sacred Geography of Navigation in the Middle Ages*, eds. Michele Bacci and Martin Rohde (Berlin, 2014).

[32] David Jacoby, "Aspects of Everyday Life in Frankish Acre," *Crusades* 4 (2005), 95–98.

[33] Syon, "Souvenirs from the Holy Land . . .".

[34] Aleksandr Musin, "Archaeology of the Ancient Russian Pilgrimage to the Holy Land in the 12th–15th Centuries," in *Theological Works n° 35: Collection of Thirty-five Essays to the 150th Anniversary of the Russian Ecclesiastical Mission in Jerusalem (1847–1997)* (Moscow, 1999), 96–97 [in Russian]; Id., "Russian Medieval Culture as an 'Area of Preservation' of the Byzantine Civilization," in *Toward Rewriting? New Approached to Byzantine Archaeology and Art. Proceedings of the Symposium on Byzantine Art and Archaeology, Cracow, September 8–10, 2008*, eds. P. Grotowski and S. Skrzyniarz (Warsaw, 2010), 11–44; Igor Gotun, "Middle Eastern Pilgrimage Crosses of Southern Rus Settlements," *The World of the Orient* 1–2 (2017), 111–130 [in Ukrainian]; Spirģis, "Finds in Latvia of 13th Century Pilgrims' Crosses . . ." 494–499.

[35] On Riga and its role in the Baltic Crusade, see Darius von Güttner-Sporzyǹski, "Northern Crusades: Between Holy War and Mission," in *The Crusader World*, ed. A. J. Boas (Abingdon and New York, 2016), 149–150.

[36] Spirģis, "Finds in Latvia of 13th Century Pilgrims' Crosses . . ."; Id., "Mother-of-pearl Crosses Found in Riga and Turaida," *Senā Rīga* 8 (2015), 110–127 [in Latvian]; Id., "Pilgrimage Context: Finds of Mother-of-Pearl Crosses . . .".

At first glance, the dispersion area (Figure II.11.7) of cross-pendants possibly manufactured in ʿAtlit, could infer, as proposed by Musin and others, that they were particularly prized amongst Orthodox Christians. However, many have been found in sites experiencing very dynamic religious and economic contacts during the thirteenth century, implying important fluidity in terms of religious identities and good exchanges.

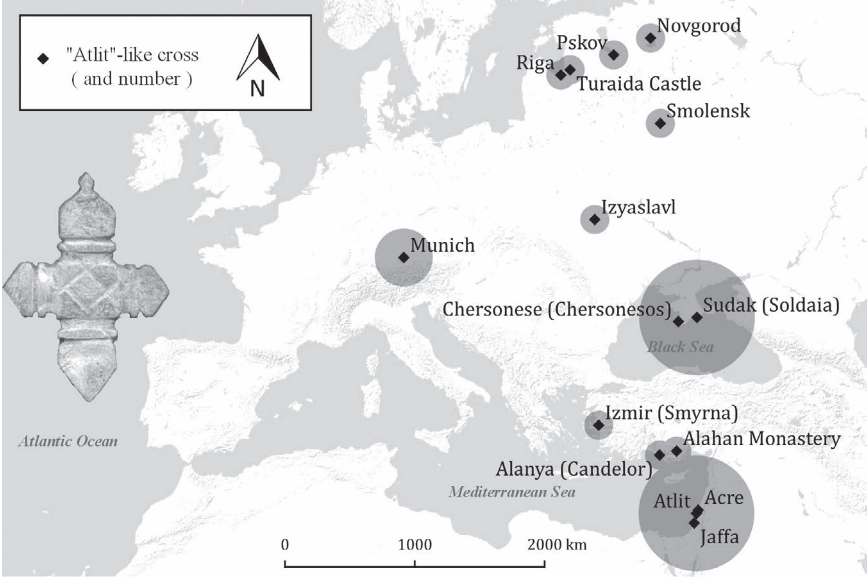


Figure II.11.7 Map showing the location of known "ʿAtlit"-like mother-of-pearl pendant-crosses. © authors

---

[37] Robert Spirģis, "A Discovery of the Thirteenth Century in Riga: Pilgrim Crosses from the Holy Land, the Oldest Petroleum Product in the Territory of Latvia?" Communication at the *75th Conference of the Archaeology and Ethnography Section of the University of Latvia: Latvia Diaspora and Intercultural Communication* (Riga, 2017).

[38] Musin, "Russian Medieval Culture . . ." 16–21. For a vast number of cross-pendants found in and around Pskov, see contributions in the V. V. Sedova seminar publications of the series *Archaeology and History of the Region of Pskov* [in Russian], especially vol. 28 (2013). Other mother-of-pearl cross-pendants of possible Palestinian origin are recorded by A. Musin in Ryazan, Kiev.

For instance, an intermediary group of crosses originates from an area witnessing an increasing importance of trade between the Levant and the Black Sea, two regions notably connected through the Genoese and Venetian emporia. A relatively large number of crosses, extremely similar to ʿAtlit types 1 and 2, have been found in Cherson and Sudak in the Crimean Peninsula (the *Gazaria* of the late thirteenth-century Genoese sources) which by the 1230s had become one of the main areas of contact between Mediterranean merchants and the Golden Horde, a gateway to the Silk Road. In fact, Cherson (Chersonesos, modern Kherson) and Sudak (Soldaia) were both Genoese colonies, the latter being located only 30 km west of Caffa.[39] At least eight or nine mother-of-pearl cross pendants were found in Sudak and its immediate surrounding, a high number which could have designated it as a production centre had the crosses not been found separately in different graves. A small cross from Sudak comes from a mid-thirteenth to fourteenth-century Christian burial inside Sudak castle (Figure II.11.5:16). Two medium crosses (Figure II.11.5: 4, 5) come from other cemeteries, one having been found in the fill of the grave of a Christian child dated between the thirteenth and the first half of the fourteenth century and located against a church (n° 4).[40] There again, it was interpreted by the excavator as a pilgrim souvenir from the Holy Land.[41] Three more crosses come from a collective burial in the so-called Watchtower cemetery (Figure II.11.5:10–19, 21), including one made of amber strongly resembling ʿAtlit type 1 and which could be a local copy of Holy Land crosses (n° 21).[42] The cross from Cherson was also found in a thirteenth-century grave containing the skeletal remains of 67 individuals, in the northern quarter of the city destroyed by fire during the third quarter of the thirteenth century (Figure II.11.5:7).[43]

The possible Genoese connection is further supported by the cross from Izmir (ʿAtlit type, (Figure II.11.5:11), medieval Smyrna, which was the siege of a Genoese consul too.[44] Another cross (ʿAtlit type 1) was excavated in Alanya castle in 2004 (Figure II.11.5:6), in one of eight Christian graves following a west–east orientation. Postdating the tenth century and dug near the ruin of a sixth-century Byzantine church, these graves delivered the remains of 27 individuals (three graves attest multiple burials). However, the mother-of-pearl cross-pendant was found in a single burial, below the jaw of a male adult individual, suggesting it was hanging from his neck.[45] Although the castle of Alanya was rebuilt by the Seljuk sultan in the 1220s, Genoese ships were still raiding in the area in the late thirteenth century.[46] Eventually, another pendant was excavated not far from Alanya, in Alahan monastery (Figure II.11.5:23).

---

[39] Soldaia appears to have been one of the main urban and commercial centres in the area, where Venitian, Genoese and other Italian merchants are well documented and where, in the mid-thirteenth century, an uncle of Marco Polo had a house and an office; see Evgeny Khvalkov, *The Colonies of Genoa in the Black Sea Region: Evolution and Transformation* (New York, 2018), 11, 61–62, and figure 1.1.

[40] Vadim V. Maiko, *Medieval Necropolis in Sudak Valley* (Kiev, 2007), 207–208, 255 [in Russian].

[41] Vadim V. Maiko, "Pilgrimage Relics from the Medieval City of Sudac and Its Surroundings," in *Laurea II. Lectures in Memory of Professor Vladimir Ivanovitch Kadeev* (Kharkiv, 2017): [in Russian].

[42] Ibid., 99.

[43] Larissa Golofast and S. G. Ryzhov, "Excavations in the Quarter X in the Northern District of Chersonesos," *Materials in Archaeology, History and Ethnography of Tauria* 10 (2003), 190, 217 and figures 22–23 [in Ukrainian].

[44] Michel Balard, *La Romanie génoise (XIIe- début du XVe siècle)* (Rome, 1978), 44.

Of course, a Genoese presence in the vicinity does not mean that the ultimate owners of the cross-pendants would have been Genoese or even Latin Christians. Trading posts from the Gazaria, like Smyrna were frequented by merchants from all horizons, including Italian, Greeks, Byzantines, Turks and Russians, and the crosses could have been exchanged several times on their way from ʿAtlit. It is, however, noteworthy that comparatively few pendants have yet been reported in the West. At least three pendants of ʿAtlit types 1 and 2 are kept in Munich (Figure II.11.5:1, 2, 8), and a pendant given by J. Pierpont Morgan to the Metropolitan Museum is the closest example of the large pendant discovered in ʿAtlit's burial S1SP24 (Figure II.11.4:15).[47] The MET pendant is currently recorded as originating from France, but like Munich pendants its provenance is rather uncertain.

Conclusion

The two small pendants discovered in ʿAtlit during the 2019 campaign, and the hypothesis of a local workshop specialising in hard materials of animal origin, suggest that mother-of-pearl craftsmanship, among the "Crusader" and Palestinian industries, contributed to the pilgrimage material culture. After the Crusades, the manufacturing of devotional objects and Christian memorabilia in mother-of-pearl seems to have almost disappeared, until being reintroduced by the Franciscans towards the end of the sixteenth century.[48] It then remained essentially in the hands of workshops in Bethlehem and Jerusalem, whose production was sometimes exported via the port of Acre.[49] By the end of the Ottoman period the industry had partly evolved towards marquetry, and later still to the production of buttons made of shells imported from the Persian Gulf and, increasingly, from America, Australia and New Zealand. These now globalised products lacked any specific meaning associated with their origin in the Holy Land.[50]

---

[45] M. Olu Arık, "Alanya Kalesı 2004 Yılı Çalışmaları," *Kazı Sonuçları Toplantısı* 27 (2005), 213–228 [in Turkish]; Handan Üstündağ and F. Arzu Demırel, "Alanya Kalesi Kazılarında bulunan insan iskelet kalıtılarının osteolojik analizi," *Türk Arkeoloji ve etnografia Dergisi* 8 (2008), 79–90 [in Turkish].

[46] In 1289, a Genoese ship caught an Egyptian vessel carrying sugar, pepper and flax off Candelor (Alanya); see D. Jacoby, *Medieval Trade in the Eastern Mediterranean and Beyond* (London, 2018), 154, 213.

[47] On the Bavarian pendants, one of which possibly originating from Asia Minor, see Christian Schmidt, "Kreuzhanhānger aus Knochen und Perlmutt," in *Die Welt von Byzanz – Europas Östliches Erbe*, ed. L. Wamser (Munich, 2004), 314, n° 557, 559 and 561. The MET pendant is recorded under inventory number 17.191.200.

[48] Michele Picirillo, *La nuova Gerusalemme: artigianato palistinese al servizio dei Luoghi Santi* (Jerusalem, 2007), 16–24; Émilie Girard and Felicita Tramontana, "La fabrication des objets de dévotion en Palestine, de l'époque moderne au début du XIX^{e} siècle," *Archives de sciences sociales des religions* 183 (2018), 247–260.

Among the ʿAtlit collection of mother-of-pearl cross-pendants, the largest one was found in a child's grave alongside another, rock-crystal, pendant. It is difficult to ascertain whether the pendant was intended to signify the status of the deceased as a pilgrim, but it certainly represented a token of affection and of the intimate Christian spirit surrounding a modest burial ceremony that had taken place sometime during the thirteenth century only a few metres from the sea.

---

[49] Jacob Norris, "Exporting the Holy Land: Artisans and Merchant Migrants in Ottoman-Era Bethlehem," *Mashriq & Mahjar* 2 (2013), 14–40.

[50] Nahum Wilbuschewitsch, *The Industrial Development of Palestine* (London, 1920), 39.

12 Enlarged-based arrow-loops in the Near East (twelfth–fourteenth century) defence or ostentation?

Maxime Goepp and Jean Mesqui

Foreword[1]

Arrow-loops were a basic feature of defensive architecture in the medieval period. In the Near East, they were well known in the Byzantine fortification, and are common in medieval fortresses and urban defences, both Crusader and Muslim. Nevertheless, arrow-loops with enlarged bases, of triangular, semi-circular or rectangular shape, appear only in the Crusader kingdom and principalities, as well as in the Armenian kingdom in Cilicia, in contrast with the kingdoms of France and England where they are common. This chapter will suggest a typology of these features. It will also examine their distribution around the Eastern Mediterranean, their dating and their relationships with other arrow-loops; particularly those in the French and Anglo-Norman kingdoms. It will propose that the enlarged bases originated in Europe, where it can be firmly dated to the years around 1200. The discussion will tackle the difficult question of the functionality of these features vs. their ostentatious role.

The most important requirement of such an exercise is to build a complete inventory of these devices. The two authors have visited, during the last 30 years, all survived medieval fortifications throughout the Mediterranean (not just for this study!). In addition, Maxime Goepp has discovered several previously unknown sites in the region, particularly in Cilicia, and carefully noted and photographed arrow-loops wherever they were present. The preliminary elements of this enquiry have been published by the authors[2]; the present chapter will give us a more in-depth approach, with an extensive bibliography.

---

[1] Our special and warm thanks to Neil Ludlow, prominent British expert in medieval fortified architecture, Castle Studies Group's fellow member, who has accepted to edit the present chapter, and helped to improve both the form and the substance.

[2] Maxime Goepp, "Les archères à étriers dans l'Orient des croisades," *Histoire et images médiévales* 20 (february-april 2010), 42–49; Jean Mesqui and Maxime Goepp, *Le Crac des chevaliers (Syrie). Histoire et Architecture* (Paris, 2019), 414–415.

DOI: 10.4324/9781003146926-13

TABLE II.12.1 Table of the fortifications presenting enlarged-based arrow-loops in the Middle East (© Maxime Goepp). ▲: Perfect triangular bases. △: Approximated triangular bases. ◠: Semi-circular bases. ⋂: Oar-shaped bases. ▯: Rectangular-shaped (spade) bases. ◢: Steep plunging sill. ⊿: Small plunging base. □: High sill (arm-rest). ?: Unknown.

Military Order	Site	Location	Fishtail	Stirrup	Oar / Spade	Plunge	High sill
	Kingdom of Jerusalem						
T	*Chastel Pèlerin*/ʿAtlit	Castle, southern front			⋂	?	?
Teu	*Montfort*/Qalʿat al Qurain	Upper Castle (primitive enclosure)	▲			⊿	?
		Gateway		◠			-
		External enclosure (north, north-west)		◠		◢	?
T	*Beaufort*/Qalʿat al Shaqif Arnoun	Castle (south-west)	△	◠		⊿	?
	Cesarée/Caesarea/Qesarya	Urban enclosure (tower 11)			⋂	◢	-
T	*Sidon*/Saïda	Sea Castle (north west)		◠	⋂	◢	□
	Smar Jbeil	Castle (south wall, barbican)	△				-
H/T	*Recordane*/Khirbet Kurdana/Tel Afeq	Keep		◠		⊿	-
H/T	*Caco*/Qaqun/Yikon	Keep	▲			◢	□
	County of Tripoli						
	Beaude/Balda/ʿArab al Muluk	Castle		◠		⊿	?
H	*Crac des chevaliers*/Qalʿat al Hosn	Reused in Mamluk tower 43 (south)	▲			?	?
		External enclosure (west), “Barbican of Brother Nicolas Lorgne”	△	◠		◢	□ -
		External enclosure (north-east, south-east)		◠		⊿	-
		External enclosure (eastern ramp)	△	◠		⊿	-
		External enclosure (south east)			▯	⊿	-
H	*Margat*/Qalʿat al Marqab	Castle (outer wall and north-east round tower)	△	◠			
		Urban enclosure (walls and western gateway)	△				
T	*Tortose*/Tartous	Inner enclosure			⋂	◢	□
	Armenian Kingdom in Cilicia						
	Anahşa	Castle	△			⊿	?
	Anavarza	Castle lower enclosure (south east tower)	▲			⊿	-
		Castle northern enclosure (northern tower)	▲			⊿	-
	Bakaçak	Castle	▲			⊿	?
	Belenkeşlik	Keep	△			⊿	-
	Böğrüeğri	Castle	△			⊿	?
	Çardak	Castle (south)	△	◠		⊿	?
	Çokak	Keep	△				-
	Elmalı	Fortified church	△			⊿	?
	Fındıkpınarı	Castle	▲			⊿	?
	Güveloğlu/Gökvelioğlu	Castle	△			⊿	?
Teu	*Haruniye*/Harun Reşit Kalesi	Castle		◠		◢	□
	Hebilli	Keep	△			⊿	?
	Kız (near Dorak)	Keep	▲			⊿	?
	Kız Kalesi (near Korykos)	Castle	▲			⊿	-
	Corycus/Korykos	External enclosure (north, east)	△			⊿	?
	Sis/Kozan	Castle (eastern enclosure, barbican)	△			⊿	-
		Castle (southern upper tower)	▲			⊿	?
	Kuzuçubelen	Keep		◠		⊿	-
	Mancılık	Castle	△			⊿	-
	Meydan	Castle	▲			⊿	-
H	Silifke	Castle, lower and upper enclosure	▲			⊿	-
	Sinap (near Çandır)	Keep		◠		⊿	-
	Skewṙa/Sinap (near Namrun)	Keep	△			⊿	-
	Tece	Keep		◠		◢	□
	Tʿil/Toprakkale	Upper casle (west)	▲	◠		◢	□
		Lower enclosure (south, east)	▲			⊿	-
	Tumlu	Castle	△			⊿	-
	Ayas/Yumurtalık	Urban enclosure	▲			⊿	?
	Kingdom of Cyprus						
	Bellapais	Enclosure (gate tower)		◡			-
H	Famagouste	Urban enclosure	△	◠		⊿	?
		Castle	△			⊿	□
	Kantara	Castle	△	◠		⊿	?
	Cerines/Kyrenia	Castle	△	◠		⊿	-
T	Limassol	Fortified church		◠		⊿	?
H	Paphos	Keep	△			⊿	?
	County of Achaïe (Greece)						
	Modon/Methoni	Urban enclosure		◠		⊿	?

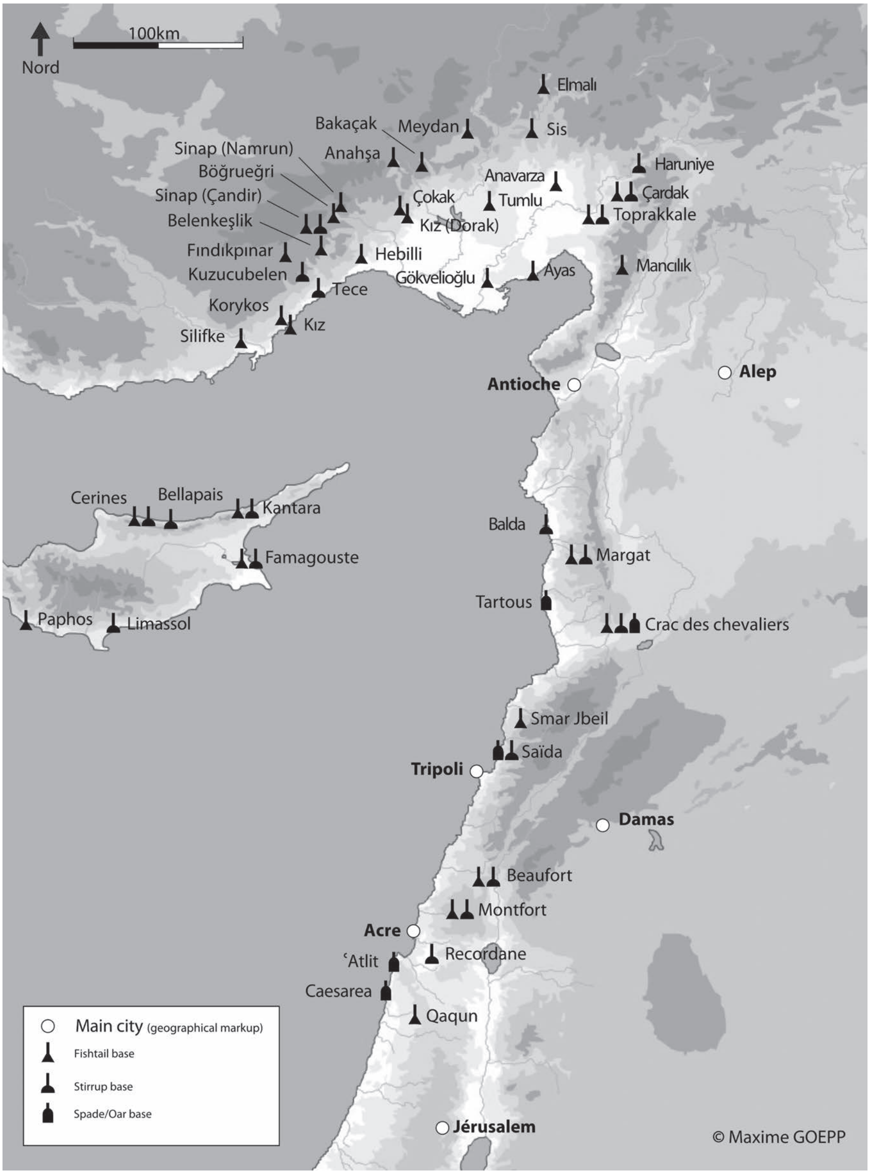

Nord
100km
Elmalı
Bakaçak
Meydan
Sis
Sinap (Namrun)
Anahşa
Haruniye
Böğrueğri
Anavarza
Çardak
Sinap (Çandir)
Çokak
Tumlu
Toprakkale
Belenkeşlik
Kız (Dorak)
Fındıkpınar
Hebilli
Mancılık
Kuzucubelen
Gökvelioğlu
Ayas
Tece
Korykos
Kız
Silifke
Antioche
Alep
Cerines
Bellapais
Kantara
Famagouste
Balda
Margat
Tartous
Paphos
Limassol
Crac des chevaliers
Smar Jbeil
Saïda
Tripoli
Damas
Beaufort
Montfort
Acre
ʿAtlit
Recordane
Caesarea
Qaqun
Main city (geographical markup)
Fishtail base
Stirrup base
Spade/Oar base
Jérusalem
© Maxime GOEPP

Figure II.12.1 Map of the fortifications presenting enlarged-based arrow-loops in the Middle East. © Maxime Goepp

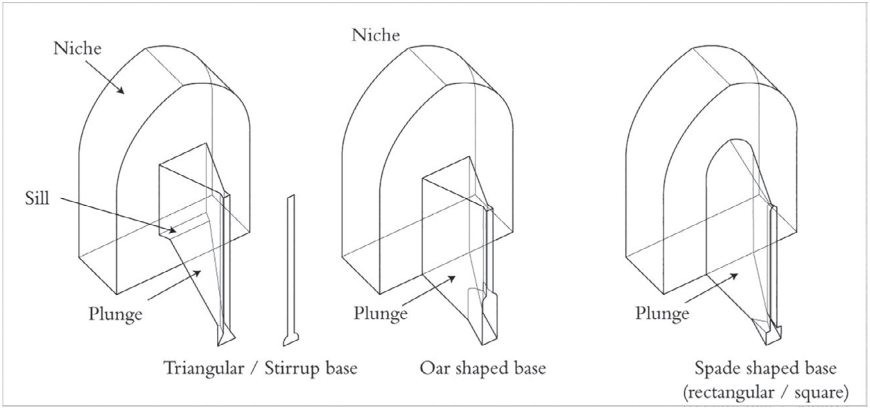


Figure II.12.2 Models of arrow-loops embrasures (all theoretical). © Jean Mesqui

As no universal glossary for such devices exists, we had first to define a terminology used in the present chapter shows the terms used in France[3] and in Britain (GB),[4] which are the Western countries where enlarged bases are the most frequent (Figure II.12.2).

Geometric type	*GB*	*FRANCE*	*Present chapter*
Generic	basal oillet	étrier (Eng. stirrup)	enlarged base
Triangular	triangular/fishtail basal oillet	étrier triangulaire	triangular/fishtail base
Square	square basal oillet	étrier en bêche (Eng. spade)	square/spade base
Elongated rectangular	rectangular basal oillet	étrier en rame (Eng. oar)	rectangular/oar base
Semi-circular/elongated semi-circular	stirrup basal oillet	étrier semi-circulaire	stirrup base
Circular	circular oillet	étrier circulaire	circular base/oillet

Both existing terminologies have their flaws. The term “oillet”, used in English, suggests a circular shape to French speakers, even though it is now used in a more generic sense by specialists. On the other side, the word “*étrier*” (stirrup), used in French, suggests to English speakers a shape with a flat base and rounded sides, a

---

[3] Jean Mesqui, *Châteaux forts et fortifications en France* (Paris, 1997), 24–27.

[4] Sidney Toy, *The Castles of Great Britain*, 4th ed. (London, 1966), 152–154, does not use any specific term to designate the enlarged bases. Neil Ludlow helped us find the right expressions in English.

"curved" triangle so to speak. We will stick here to "enlarged base" as a generic term and use either geometry or analogy to describe individual shapes.

The Kingdom of Jerusalem and the County of Tripoli

Enlarged-based arrow-loops are unknown in Crusader fortifications until the end of the twelfth century. To get a better idea of their appearance, we will look at the castle of *Margat/*Qal'at al-Marqab (Syria), acquired by the Hospitallers in 1186 and rebuilt shortly afterwards in several phases. The arrow-loops in the first constructions attributed to the brethren do not show enlarged bases; neither does the massive keep, built shortly before 1202.[5] In contrast, the second round tower of the castle (to the north-east), known to belong to the same campaign as the keep, exhibits large slits at the first floor, one of them with a triangular base, the other with a short stirrup base. In the same sector, the terrace and parapet of the outer enclosure show long slits with stirrup bases. When turning clockwise around the urban enclosure, one can see that stirrups appear only in the towers and battlements of the east side. Finally, the massive gate tower keeps two types of bases: they are triangular in the tower itself, whereas in the heightened section of the adjoining curtain, to the north, they resemble flattened curved stirrups. As there is no firm evidence for the duration of the works, one can only draw from this picture a fragile conjecture: enlarged bases could have been introduced progressively from the first decade of the thirteenth century onwards.[6]

Spectacularly large arrow-loops are to be seen at *Chastel Pèlerin/*'Atlit (Israel), in the south wall of the fortress, built by the Templars after 1218, where remarkably they take the form of a wine bottle[7] (Figure II.12.4:1). They certainly belong to the first phase of the building in 1218, in which Walter of Avesnes, husband of the heiress of the county of Blois (France), played an important part. They appear to belong to the crenellated parapet of a wall around 10 m high and were blocked when the wall was heightened, and a vault built behind.[8] This type of arrow-loop,

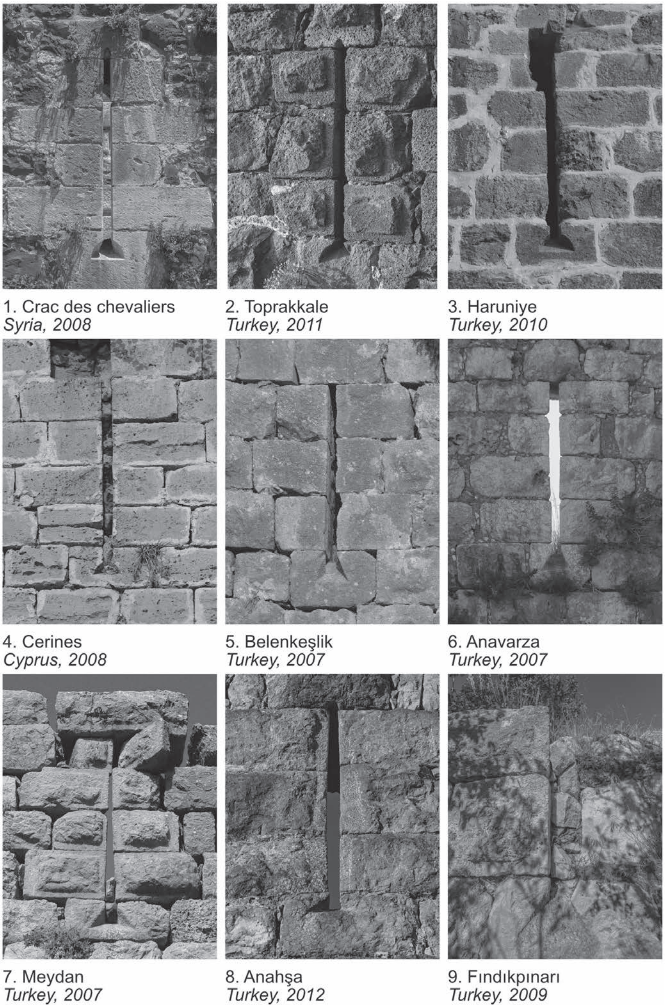
---

[5] Balász Major, "Construction a Medieval Fortification in Syria: Margat between 1187 and 1285," Bridge of Civilizations. The Near East and Europe c. 1100–1300, eds. P. Edbury, D. Pringle and B. Major (Archaeopress, 2019), 1–22.

[6] In the absence of very recent publications of the urban walls, see Paul Deschamps, Les Châteaux des Croisés en Terre Sainte, vol. III, *La défense du comté de Tripoli et de la principauté d'Antioche* (Paris, 1973), 259–286. Jean Mesqui, "Quatre châteaux des Hospitaliers (Crac des Chevaliers, Marqab, Qal'at Yahmur, Coleiath)," *Châteaux du Moyen* Âge au Proche-Orient, accessed 30/12/2022 <http://www.castellorient.fr/0-Accueil/indexfran.htm>

[7] The arrow-loops are described and drawn in C. N. Johns, *Guide to 'Atlit* (Jerusalem, 1947), 51–52, fig. 15.

[8] J. M. could check onsite that the drawings of C. N. Johns are scrupulously realized, but fig. 15 C, which represents the Western extremity of the wall. Old photographs allow us to recognize, as Johns depicts it, the primitive crenellated parapet (blocked), but the upper part of the arrow-loops is in reality shorter than it is shown on the drawing. They were the same size as the line of arrow-loops in the rest of the western wall.



1. Crac des chevaliers
Syria, 2008
2. Toprakkale
Turkey, 2011
3. Haruniye
Turkey, 2010
4. Cerines
Cyprus, 2008
5. Belenkeşlik
Turkey, 2007
6. Anavarza
Turkey, 2007
7. Meydan
Turkey, 2007
8. Anahşa
Turkey, 2012
9. Fındıkpınarı
Turkey, 2009

Figure II.12.3 Synoptic view of different enlarged bases. © Maxime Goepp

therefore, was in use at ‘Atlit only for a short period. The only other example of an arrow-loop with a similar base is a long way from ‘Atlit, in the *Tour du Foix* at Blois[9] (Figure II.12.4:6); their presence in ‘Atlit cannot be considered as a coincidence, since Walter of Avesnes became count of Blois in the very year 1218.

---

[9] Frédéric Lesueur, “Les fouilles du château de Blois, en 1906,” *Bulletin Monumental* 72 (1908), 78–119. https://doi.org/10.3406/bulmo.1908.11440, at 86–92.

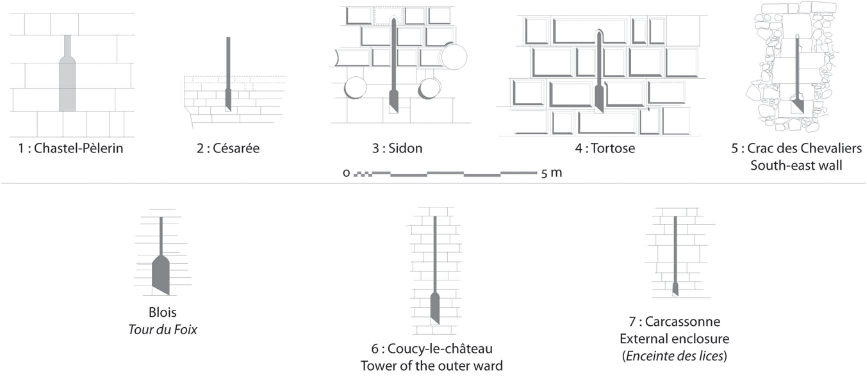

1 : Chastel-Pèlerin
2 : Césarée
3 : Sidon
4 : Tortose
5 : Crac des Chevaliers
South-east wall
0
5 m
Blois
Tour du Foix
6 : Coucy-le-château
Tower of the outer ward
7 : Carcassonne
External enclosure
(Enceinte des lices)

Figure II.12.4 Comparison of different oar-shaped arrow-loops in the Middle East and in France. © Jean Mesqui

*Montfort/*Qal'at al Qurain (Israel) was built by the Teutonic knights after 1228 and shows different types of enlarged bases. In the inner ward, the western wall of the original enclosure shows two perfect fishtail bases at the top (without their slits), which might be *in situ*: they were later blocked by the vaults of the hall adjoining the primitive enclosure to the west, and the slits disappeared.[10] In the gate tower leading to the outer ward, to the north, are two arrow-loops at the first-floor level and the summit level (incomplete), with relatively large slits, and short stirrup bases. Finally, the finest stirrup bases appear in the walls of the outer ward, in the earliest as well as in the latest parts, which might have been unfinished in 1271; they are very close to the ground.[11]

Crac des chevaliers/Qal'at al Hosn (Syria) was acquired by the Hospitallers in 1142. In the primary works (after 1170) arrow-loops were confined in the crenellated parapets, today heavily destroyed. A small triangular fishtail base has been reused in the round Mamluk tower 43 to the south; no other base of such a small size is visible in the castle. On the contrary, the entire outer wall enclosing the west bailey, known as the "Barbican of Brother Nicolas Lorgne", which is flanked by five round towers and a single rectangular one, was pierced by long and narrow arrow-loops with fine enlarged bases. Starting from the south, the bases are triangular (fishtail bases), but quickly become true stirrups with rounded sides (Figure II.12.3:1); these rounded sides become progressively flattened towards the north end of the wall. The works can be dated to 1240–1250 at the earliest, 1250–1260 at the latest.[12] The outer casemated walls on the north-east and the south-east, as well as the outer wall on the east over the former access ramp, show arrow-loops with semi-circular stirrups; in the south galleries, one can also see square spade-shaped bases, especially in the crenellated parapets (Figure II.12.4:5). These works were undertaken during the last decade of the Hospitallers occupation (1260–1271).[13]

---

[10] Mentioned in Adrian J. Boas, "Renewed Research at Montfort Castle," in *Archaeology and Architecture of the Military. Orders*, ed. Mathias Piana (Farnham-Burlington, 2014), 175–192, at 186–188. Daniel Burger, Thomas Biller and Timm Radt, *Montfort und der frühe Burgenbau des Deutschen Ordens"* (Petersberg, 2015), 93. Adrian J. Boas and Rabei Khamisy, *Montfort. History, Early Research and Recent Studies of the Principal Fortress of the Teutonic Order in the Latin East* (Leiden-Boston, 2017), 97.

[11] M. G. recognized those in 2009 and published them in "Les archères à étriers . . .," 45. The two parts of the walls are summarily described by Boas and Khamisy, *Montfort* . . ., 99–101. Description and photographs of the walls and of a stirrup-based arrow-loop in Burger, Biller and Radt, *Montfort*, 108–114, but the authors write erroneously that the arrow-loops of the north wall (the earliest) lack stirrups, which is not the case.

One of the towers in the urban enclosure of *Césarée/*Caesarea/Qesarya (Israel), built in 1251–1252 by Louis IX of France, shows oar-shaped bases at the bottom of its arrow-loops[14] (Figure II.12.4:2); why this was not the case in any of the other towers is a question we will try to solve in the discussion. In the same city, the keep of the citadel presented a spade-shaped base, depicted in a report written by the engineer Gottfried Schumacher in 1888,[15] but the exact positioning of it is unclear.

At *Beaufort/*Qal'at Shaqif Arnoun (Lebanon), a single arrow-loop with a triangular stirrup, not very deeply cut, survives in the wall to the south-west close to the inner gate. A curved stirrup base, no longer visible (before the recent restoration), was seen by Paul Deschamps in the same wall, in the 1930s.[16] The wall is attributed to the Templars after 1260.[17]

On the Mediterranean to the north-west, is the sea castle of *Sagette – Sidon/*Saïda (Lebanon). Its north and west sides are surrounded by a vaulted gallery, probably built by the Templars during the latest phase of construction (after 1274).[18] In the external wall of the gallery, laid out in magnificent bossed masonry (rebuilt using anastylosis in 1949–1950), is a series of arrow-loops with oar-shaped bases at regular intervals; the embrasures have a high sill with a deep plunge (Figure II.12.4:3). The arrow-loops opened right at sea level, which in terms of defence would make their oar-shaped bases and plunges unnecessary. In addition, Kalayan's article includes a photograph showing a very fine half-circular stirrup cut into a block of bossed masonry, which was probably recovered from the sea, but its initial position in the wall is unknown; the stone is no longer to be seen on the site.

---

[12] Mesqui, *Le Crac des chevaliers . . .*, 192–215 (with the discussion of the dating 214–215).

[13] Ibid., 410, 412.

[14] Jean Mesqui, *Césarée maritime, ville fortifiée du Proche-Orient* (Paris, 2014), 214.

[15] Gottfried Schumacher, "Researches in the Plain North of Caesarea," *Palestine Exploration Quarterly* 19 (1887), 78–90, 19 (1888), 134–136. See Mesqui, *Césarée maritime . . .*, 355.

[16] Paul Deschamps, *Les Châteaux des Croisés en Terre-Sainte. II. La défense du royaume de Jérusalem* (Paris, 1939), 204, fig. 18.

[17] Christian Corvisier, "Les campagnes de construction du château de Beaufort (Qal'at as-Sharqif), une relecture," in *La fortification au temps des Croisades*, eds. N. Faucherre, J. Mesqui and N. Prouteau (Rennes, 2004), 243–266, at 253. Jean Yasmine, "Le château de Beaufort (Qal'at Chqif Arnum). Nouveau relevé, nouvelle lecture," *Burgen und Schlösser* 50/4 (2009), 233–241.

[18] Haroutune Kalayan, "The Sea Castle of Sidon," *Bulletin du Musée de Beyrouth* 26 (1973), 81–90. See also Jean Mesqui, "La fortification des Croisés au temps de Saint Louis au Proche-Orient," *Bulletin Monumental* 164 (2006), 5–30, at 24–26.

During the same period, the inner enclosure of *Tortose/*Tartous (Syria), headquarters of the Templars in the county of Tripoli, which was originally 12 m high, was heightened by an astonishing 8 m in a second phase, probably to tackle the dangers of raids by the Mamluk army after the taking of Crac des Chevaliers (1271). The earlier parapet was blocked, and two levels of vaulted galleries were built over it; at the same time, the wall was widened towards the interior in order to accommodate the galleries. Each of the galleries was equipped with a series of arrow-loops alternating with square windows; at the lower level, the arrow-loops were oar-shaped in the same manner as their contemporaries at Saïda (Figure II.12.4:4). Only a 30-m-long stretch of the heightened wall remains to the south-east of the enclosure.[19]

Not surprisingly, all these fortifications were the work of the Military Orders (apart from Caesarea, built by the King of France); in fact, the Orders were practically the only builders in the Crusader principalities during the thirteenth century. Other examples can be cited, like the quadrangular keep at *Caco/*Qaqun/Yikon (Israel; Hospitaller or Templar), where a small triangular stirrup can be seen[20]; the medieval mill of *Recordane/*Khirbat Kurdana/Tel Afeq (Israel; Hospitaller), where a square tower shows five loops with stirrup bases[21]; the ruined tower of *Beaude/*Balda/ʻArab al-Mulk (Syria; Hospitaller), with a fine semi-circular stirrup in the first (and last) visible course of stones.[22]

As an exception, a small castle to the north-east of Saïda, Smar Jbeil (Lebanon), is totally unknown in the Crusader sources. The core of the castle comprises a fine rectangular keep and an enclosure flanked by square towers built bossed ashlar, probably from the mid-twelfth century. The south wall was partially rebuilt in small rectangular blocks, while a barbican was added to the west and to the south. Several arrow-loops can be discerned in these different walls. Two of them show a stone, at the bottom of the slit, which is engraved with the design of a triangular

---

[19] First notice of this disposition and arrow-loops in Mesqui, "La fortification des Croisés . . .," 26–27. Mathias Piana, "A Bulwark Never Conquered: The Fortifications of the Templar Citadel of Tortosa on the Syrian Coast," in *Archaeology and Architecture of the Military. Orders*, ed. Mathias Piana (Farnham-Burlington, 2014), 133–171, at 142–143.

[20] Denys Pringle, *The Red Tower* (British School of Archaeology in Jerusalem, 1986), 58–71 (with a detailed monography). *Secular Buildings in the Crusader Kingdom of Jerusalem. An Archaeological Gazetteer* (Cambridge, 1997), 83–84. Denys Pringle proposes a dating to the end of twelfth or early thirteenth century, based on comparisons with Crac des chevaliers, but the dating of Crac des chevaliers has been revised since; identity of the builder is unclear, since the lords of Caesarea were still juridically in charge in 1257, but the site was in the hands of both Hospitallers and Templars.

[21] Pringle, *The Red Tower*, 60. *Secular Buildings . . .*, 63–64.

[22] Balász Major, *Medieval Rural Settlements in the Syrian Coastal Region* (Oxford, 2015), 70–71, plates 32–43.

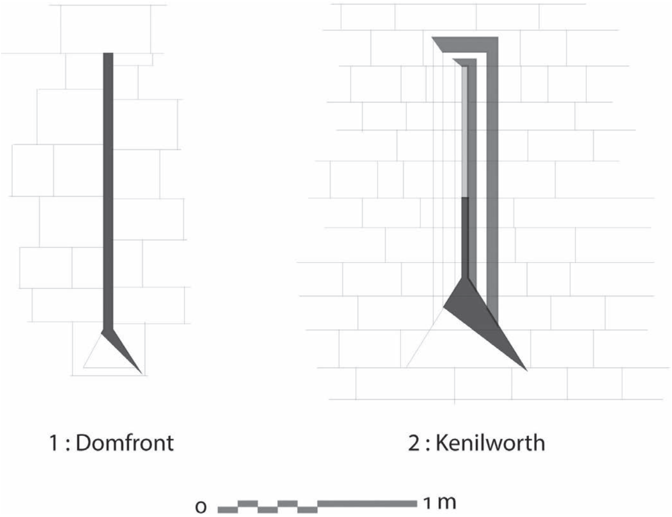


Figure II.12.5 Hypertrophic fishtail bases at Domfront (F) and Keniworth (GB). © Jean Mesqui

stirrup, nearly flat, and which might be reused[23] (Figure II.12.6:3); there is no indication for either a date or an attribution.[24]

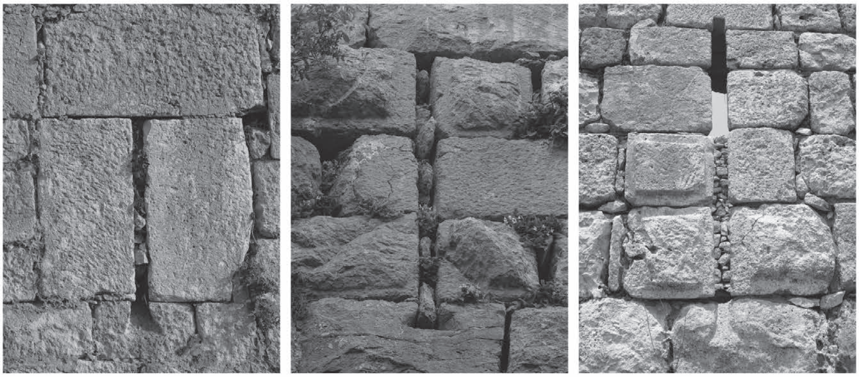
To conclude on the Crusader principalities in the Levant, all the signs tend to converge on the following points:

- Enlarged bases appear probably as of the start of the second decade of the thirteenth century.
- Perfect fishtail bases are relatively rare and seem to be used more in the beginning than at the end of the thirteenth century.
- The most common shape is the stirrup, more or less flattened.
- From the mid-thirteenth century onwards, the design tends to become more sophisticated, with spade-shaped bases and (more frequently) oar-shaped bases. Nevertheless, as early as in the 1220s, ‘Atlit uses very uncommon bases which were never used elsewhere.
- Enlarged bases are used in fortresses of all sizes and functions, from small towers to large garrison castles.

---

[23] M. G. recognized those in 2008.

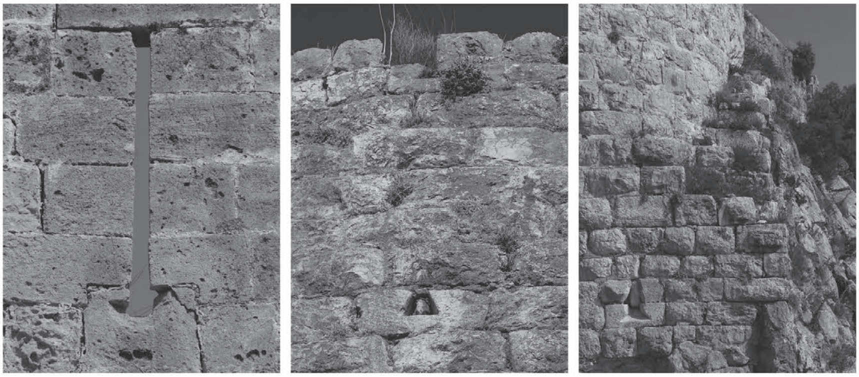
[24] Anis Chaaya, “The Castle of Smar Jbeil. A Frankish Feudal Stronghold in Lebanon,” *Journal of Eastern Mediterranean Archaeology and Heritage Studies* 4/2–3 (2016), 209–241, does not notice the stirrups and proposes a dating of the barbican to the second part of the twelfth century, which might be too early.



1. Korykos
Turkey, 2007

2. Gökvelioğlu
Turkey, 2007

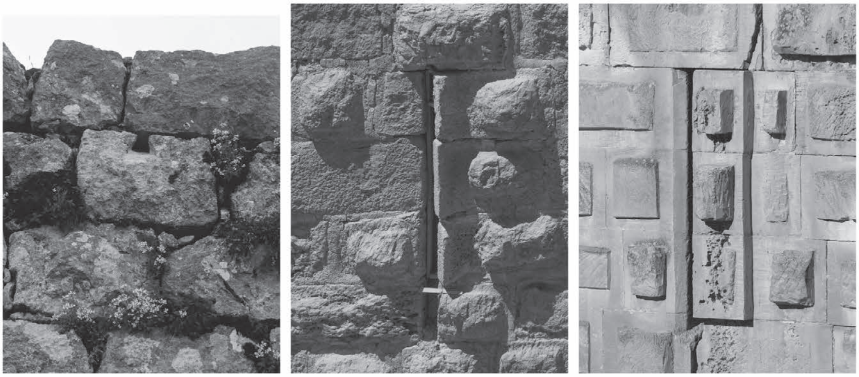
3. Smar Jbeil
Lebanon, 2008



4. Bellapais
Cyprus, 2008

5. Sis
Turkey, 2015

6. Sis
Turkey, 2011



7. Böğrüeğri
Turkey, 2011

8. Kerak
Jordan, 2011

9. Rumkale
Turkey, 2007

Figure II.12.6 Arrow-loops for the show. Synoptic view of different cases. © Maxime Goepp

Armenian Kingdom in Cilicia[25]

The picture is very different in the Armenian Kingdom in Cilicia. Robert W. Edwards's pioneering work conclusively demonstrated that, in the numerous Cilician fortifications, the enlarged-based arrow-loop is one of the criteria to recognize Armenian works from Byzantine or Mamluk constructions. This can be considered as perfectly true, but the lack of written or epigraphic sources is such that only a very few of these fortifications have an history which could help in dating their constructional phases and in outlining an evolution scheme. It has to be reminded that the Armenian Kingdom in Cilicia lasted till 1375, and from 1266 was under constant raids from the Mamluks; thus the fortifications which can be seen today are the result of many building campaigns, some of them very late.[26] Unfortunately, a large number of sites have, in the past years, undergone heavy restoration. Architectural (and archaeological?) evidence has been transformed and/or removed, without any internationally available record.

The huge fortress of *Sis*/Kozan, one of the most important since it was the capital of the kingdom, and siege of the Kat'olikos, shows well the complexity of the topic.[27] On a rocky mountain, several baileys surround the upper castle. Enlarged-base arrow-loops are mainly concentrated in the eastern bailey, in the sector of the main gate of the castle. The walls comprise a heterogenous set of towers and curtains, presenting different construction stages, the latest probably Mamluk. Different kinds of arrow-loop bases can be seen at the level of the former vaulted wall-walk, most of them with fishtail bases; none of them is documented, and some of them might belong to the fourteenth century or have been reused.[28] A large rounded salient (O in Edwards' plan) shows 2 m below the summit two fishtail bases, also without their slits, and one can recognize at the level of the wall-walk another fishtail base showing that the salient was heightened (Figure II.12.6:5).[29]

A single Armenian inscription on a stone in the hall within the upper tower (tower M in Edwards' plan), records the name of King Het'um (probably Het'um

---

[25] All sites mentioned here are located in Turkey. They were visited and photographed by Maxime Goepp; the descriptions and analysis are done by the two authors with the help of the considerable documentation accumulated by him. Obviously, the considerable work of Robert W. Edwards, *The Fortifications of Armenian Cilicia* (Washington, 1987) forms a solid basis; the cross-examination with Hansgerd Hellenkemper, *Burgen der Kreuzritterzeit in der Grafschaft Edessa und im Königreich Klein Armenien* (Bonn, 1976), is always useful. Unfortunately, more recent published works do not bring any new elements.

[26] R. Edwards rarely enters discussions on sequences of construction or precise chronology in the fortifications. Unfortunately, this scientific and prudent attitude has allowed some of his followers to put forward conjectures in favour of early dating (sometimes very early!) without any kind of archaeological proof.

[27] Edwards, *The Fortifications . . .*, 233–237.

[28] The round tower of the south bailey shows very large rectangular bases dating from the late Mamluk or even early Ottoman period, since they are designed for firearms.

[29] The same observation can be made in the small castle at Bakacak, whose west wall has also been heightened.

I, 1226–1270). This rounded tower is built on a solid square base where two perfect fishtail bases, minus their slit, are to be seen in the upper course (Figure II.12.6:4): another stone carved with a fishtail base carved inside was re-used, upside down, on another side of the tower. This shows obviously that a first square salient equipped with arrow-loops was infilled and heightened to accommodate the royal hall above.[30] The reuse of stones carved by arrow-slit bases was frequent (see, for example, Böğrüeğri, Figure II.12.6:7).

Also iconic, the fortress of Anavarza presents another picture. It had been the capital of the principality before the creation of the kingdom by Levon I (known before his coronation as prince Levon II) before the end of the twelfth century. Built on a large outcrop of limestone rising over the plain, the site consists of a large, nearly rectangular plateau, separated from the elongated upper castle to the north by the famous keep bearing an inscription to prince Levon II (1187). Several Armenian flanking towers survive in the lower enclosure and were obviously built in a single campaign; nevertheless, only one of them, on the corner to the south-east (tower D on Edwards' plan), shows arrow-loops with fishtail bases (Figure II.12.3:6). On the northernmost end of the upper castle, which is mostly Byzantine, is a rectangular tower of probable Armenian build, which exhibits a well-conserved arrow-loop, relatively large and wide, with a perfect triangular stirrup, between two *bretèches* (machicolations supported by two corbels). Nothing at all can be said on the phasing of these constructions, due to the lack of documentation.[31]

A statistical approach shows that, in 26 out of 29 cases present in the territory, the arrow-loops present fishtail bases, designed as perfect isosceles triangles (see, for example, Belenkeşlik, Figure II.12.3:5). This does not mean that they are all similar. One can find flattened triangles, like for instance at Anahşa[32] (Figure II.12.3:8) and at *Sis/*Kozan (base of the round tower M); on the contrary, the triangles can be elongated, at Toprakkale, Kız Kalesi/Korykos, Sis and Silifke (see next). They can be very large, as in Fındıkpınarı[33] (Figure II.12.3:9); at Meydan[34] (Figure II.12.3:7) where there is a single very large example in an arrow-loop placed at ground level, whereas all the others are normal; and in the parapets of the north-east wall at Sis/Kozan. They can vary in depth: in some cases, the fishtail is merely carved on the surface of the stone, like for instance in Çokak[35] and Mancılık,[36] ruling out any functional use.

---

[30] Same observations at *Ayas*/Yumurtalık, Elmalı and Böğrüeğri (figure 6.7), where the only remaining fishtail bases are now re-used in the walls, sometimes upside down.

[31] Edwards, *The Fortifications* . . ., 65–72. Hellenkemper, *Burgen*, 191–201.

[32] Edwards, *The Fortifications*, 62–65.

[33] Ibid., 122–123.

[34] Ibid., 189–194.

[35] Not mentioned by Edwards.

[36] Edwards, *The Fortifications*, 185–187.

On the other hand, only a limited number of sites show true stirrup-based arrow-loops: where present, they are perfectly semi-circular. The small castle of *Haruniye/*Harun Reşit Kalesi was granted by King Het'um I and his wife Zapĕl (Isabella), on 22 January 1236, to the Teutonic Knights; we believe it was entirely rebuilt by the brethren, with a D-shaped tower probably containing a chapel.[37] The north wall is defended by 11 casemated arrow-loops, each of them with a perfect semi-circular base (Figure II.12.3:3), reminiscent of those in the outer bailey at *Montfort/*Qal'at al Qurain (Israel).

Another impressive castle, *T'il/*Toprakkale, also shows such arrow-loops. This huge fortress comprises a strong polygonal enclosure flanked by no less than 12 U-shaped towers, strengthened to the south, west and north by a concentric lower wall also flanked by several towers, and a strong lower bailey with polygonal towers. In the upper castle, the west wall shows a very interesting sequence of arrow-loops: referring to Edwards' plan, tower E (north-east) has a semi-circular stirrup; curtain G-E presents four arrow-loops with elongated triangular bases and vaulted embrasures with high sills and plunges, certainly contemporaneous, which can easily be distinguished from the arrow-loops of the curtain G-H, lacking enlarged bases and opening in Mamluk casemates. They are also very different from the arrow-loops of the concentric lower enclosure, which are equipped with large triangular bases, as at Fındıkpınarı and Meydan. The remarkable vaulted gallery running within the base of the impressive glacis to the east of the upper castle presents also a perfect stirrup-based arrow-loop (Figure II.12.3:2).

Thus, like Hellenkemper (and unlike Edwards), we think that these very specific arrow-loop bases were influenced by Crusader designs, and we suggest that nearby *Haruniye/*Harun Reşit Kalesi might be one source.[38] The same could be conjectured for the nearby garrison-fort of Çardak, which has no documentary record. Three casemated arrow-loops, with rounded stirrup bases, survive in its southern wall; the East tower (E on Edwards' plan) also shows triangular stirrup bases at summit level. Edwards suggested that the entire castle could be attributed to the Byzantines, but this dating is not acceptable, as the semi-circular stirrups are clearly of later construction.[39]

Surprisingly, two other cases, not situated in the same area but more towards the west, show such arrow-loop bases: the two manorial towers of Sinap (close to Çandır), and Tece.[40] Nothing can be said about the history of these *maisons fortes*.

It is obviously not possible to give details on all the Cilician sites presenting enlarged bases. Nevertheless, it is worth evoking the case of Silifke, the westernmost castle on the Mediterranean coast, which is in some ways a counterpart of *Haruniye/*Harun Reşit Kalesi. This important Byzantine stronghold was granted to the Hospitallers in 1210, by King Levon I; 16 years later, the castle was relinquished by the brethren to the young widow Queen Zapěl and her new husband to be Het'um I.[41] As Mathias Piana has shown,[42] the major part of the walls and towers of the two concentric enclosures was probably built by the brethren immediately after 1210: all the arrow-loops were equipped with elongated triangular bases.

---

[37] Ibid., 143–147, curiously seems to underestimate all the evidence and attributes the castle to the Armenian ("none of the architectural features in the garrison fort indicate that any significant German construction is present"). This is also true for Hellenkemper, *Burgen . . .*, 116–119. Obviously they did not know *Montfort*. See A. Boase, *Archaeology of the Military Orders* (Routledge, 2006), 146, who also considers the construction as Teutonic.

[38] Hellenkemper, *Burgen . . .*, 140–153. Edwards, *The Fortifications . . .*, 244–253.

[39] Edwards, *The Fortifications*, 110–111. Hellenkemper, *Burgen . . .*, 108–110, proposes the first half of the thirteenth century.

[40] Sinap: Edwards, *The Fortifications*, 231. Tece: ibid., 141–144.

Very similar arrow-loops can be seen at both the land and the sea castles of Kız Kalesi/Korykos. The land castle is mostly of Byzantine build; but in the outer concentric enclosure on its north and east sides, which was constructed or repaired later, arrow-loops with elongated fishtail bases pierce the walls. The sea castle, while similarly of unquestionable Byzantine origin, was entirely rebuilt by the Armenians; two inscriptions in the south-east quadrangular tower celebrate King Levon I in the year 1206 and King Het'um I in the year 1251 for having built the castle anew.[43] Towers and walls of the fortress show arrow-loops with elongated fishtail-bases (some of them unfortunately badly restored in the south-east tower), clearly similar to the ones of Silifke (Figure II.12.6:1). It seems probable that the construction happened during Het'um I's reign.

To summarize, even if the sources are lacking, the general feeling is that the appearance and development of enlarged-based arrow-loops in Armenian Cilicia was coeval with the birth and growth of the Armenian Kingdom, i.e. from Levon I onwards (1197–1198), and probably even later, from Het'um I. The latter was the first king to unite the two rival Houses of the Rubenids and Hetumids, and thus the first king with real power over the whole territory.

Moreover, we think that the new type of arrow-loops, unknown in the Byzantine times, appeared at the same time as it did in the Crusader principalities; these enlarged bases were used whatever the status of the fortified site. But in Armenian Cilicia, the triangular base was clearly favoured; the semi-circular stirrups seem to have been introduced by the Military Orders around the 1210s. Unlike their counterparts in the Crusader principalities, Armenian builders showed no interest in more sophisticated features, like the long oar-shaped bases which developed in the castles of the Military Orders' castles during the second half of the thirteenth century.

Kingdom of Cyprus/Principality of Achaïa

The next medieval principality in the eastern Mediterranean to show enlarged-based arrow-loops is Cyprus. Actually, if we exclude the curious inverted semi-circular bases present in the gate tower at Bellapais (Figure II.12.6:4), which are clearly later than the end of the fourteenth century, arrow-loops with enlarged bases are visible at only five sites, where they are all stirrup-shaped. Dating these castles, all under royal control, is as difficult as it is in Cilicia: it is generally proposed that after the fall of Acre in 1291, a huge effort of fortification was undertook by kings Henry II and Amaury, but it is worth noting that this is purely conjectural.[44]

---

[41] Edwards, *The Fortifications*, 221–229.

[42] Mathias Piana, "The Castle of Silifke, A Neglected Hospitaller Fortification in Cilicia," in *Castelos das Ordens Militares* (Lisbon, 2014), 227–251.

[43] Edwards, *The Fortifications* . . ., 161–167. Hellenkemper, *Burgen* . . ., 242–249. Victor Langlois, *Inscriptions grecques, romaines, byzantines et arméniennes de la Cilicie* (Paris, 1854), 48.

At Famagusta (castle and town walls), one must examine the castle buildings, which are engulfed by Venetian fortifications, very carefully to recognize that the walls and towers had fine arrow-loops equipped with semi-circular stirrups. The works are attributed to Henry II and Amaury II of Lusignan, end of the thirteenth and beginning of the fourteenth century.[45]

The same is true at Paphos, where a medieval tower is absorbed within an Ottoman fort: two arrow-loops with similar bases can be recognized: a dating in the second half of the thirteenth century was proposed but remains uncertain.[46] At Limassol, only a single half stirrup is visible: it has been reused when transforming the fortified church into an Ottoman fort, on its north-west side.[47]

*Cérine/*Kyrenia was with Famagusta one of the most important castles and fortified harbours of the kingdom. Here again, we find arrow-loops equipped with semi-circular stirrups in all the curtains and towers (Figure II.12.3:4); the front to the north, with the horseshoe tower and the adjoining curtain is particularly interesting, as the same kind of arrow-loop was used when the walls were heightened. The medieval fortress could be attributed to the second half of the thirteenth century, or the fourteenth century.[48]

Lastly, the castle of Kantara, built on a rocky mountain overlooking the plain of Famagusta and the Mediterranean, exhibits stirrup-based arrow-loops in the walls and towers of its large barbican or outer bailey. Their dating has been discussed; Morelle has proposed the first third of the thirteenth century, whereas Petre has stressed the fact that it could well be much later.[49] What can be said is that the barbican is clearly later than the walls of the upper castle, where a single enlarged-based arrow-loop can be seen to the right of the entry.

---

[44] On the castles of Cyprus, see James Petre, *Crusader Castles of Cyprus. The Fortifications of Cyprus under the Lusignans: 1191–1489*, PhD, 2010, online (2020/07/09) http://orca.cf.ac.GB/54199/1/U564882.pdf. Camille Enlart, *L'art gothique et de la renaissance en Chypre*, 2 vol. (Paris, 1899), is still an interesting source, however outdated by the more recent studies, particularly Jean-Bernard de Vaivre and Philippe Plagnieux, *L'Art gothique en Chypre* (Paris, 2006). James Petre has summarized and analysed all these works in his PhD thesis.

[45] Christian Corvisier, "Le château de Famagouste," in J. B. de Vaivre, Ph. Plagnieux, *L'Art gothique* . . ., 351–366.

[46] Christian Corvisier, "Le château de Pafos," in J. B. de Vaivre, Ph. Plagnieux, *L'Art gothique* . . ., 391–405.

[47] Christian Corvisier and Nicolas Faucherre, "Une chapelle templière dans la redoute turque? L'énigme archéologique du château de Limassol en Chypre," in *Utilis est lapis in structura. Mélanges offerts à Léon Pressouyre* (Paris, 2000), 345–371. See also Petre, *Crusader Castles*, 288–313, for a discussion on the origins of the fortification.

[48] See Petre, *Crusader Castles*, 244–264.

[49] Nicolas Morelle, "The Castle of Kantara – A Key to the Evolution of Active Defence in the 13th Century between the Eastern and the Western Worlds," *The Castle Studies Group* 28 (2014–15), 284–310. James Petre, "Commonality in Crusader Castle Construction in Armenian Cilicia and

To summarize, true stirrup-based arrow-loops seem to be a feature of royal fortification in medieval Cyprus, even if they are not universally used. It seems probable that their introduction in the repertoire of the royal masons postdates the fall of Acre, but this is purely conjectural.

One might think that such features would also appear in the Crusader principalities of Greece: but in the principality of Achaïa, not a single castle (to our knowledge) shows enlarged-based arrow-loops. In the small venetian territory of Modon/Methone to the south of the Peloponnese, the town walls are flanked by square towers at regular intervals, unfortunately heavily weathered by marine erosion; arrow-loops survive in two of them, one of them with a perfect semi-circular stirrup. The town was conquered by the Venetians in 1206 and recognized by the new prince of Achaia as an independent possession of Venice by 1209.[50] The towers are necessarily subsequent to this event, though there is no historical evidence for their date: it can be clearly seen that they are not bonded into the walls, so the dating is quite open.

Brief overview of the two Kingdoms of France (FR) and England (GB)

We have no evidence of such arrow-loops elsewhere around the Mediterranean, apart from the kingdom of France. It leads us to question the context in the territories of the two competing "superpowers" at that time: the Kingdom of France and the Anglo-Norman Kingdom. Within these are hundreds of sites showing arrow-loops with more-or-less sophisticated enlarged bases, continuing up to the fifteenth century: it is impossible to mention all of them here, but we will try to highlight the most important trends.[51]

Actually, the earliest known examples seem to show up in the Angevin territories, more precisely in Normandy at Domfront (FR), where the castle is defended on the east front by two polygonal towers and vaulted galleries equipped with several fine perfect fishtail-base arrow-loops (Figure II.12.5:1): it seems the whole

---

Cyprus: The Case for Kantara and the Catalyst of Korykos," in *Crusader Landscapes in the Medieval Levant*, eds. M. Sinibaldi, K. J. Lewis, B. Major and J. A. Thompson (Cardiff, 2016), 241–259.

[50] Kevin Andrews, *Castles of the Morea*, 2nd ed. (Princeton, 2006), 58–83, albeit published the first time in 1953, remains the sole detailed monograph of the fortifications; unfortunately, it deals very few with the detailed analysis and dating.

[51] On this subject for France, see Jean Mesqui, *Châteaux et enceintes de la France médiévale*, vol. II (Paris, 1993), 251–300. Recent update and in-depth discussion in Denis Hayot, *L'architecture fortifiée capétienne au XIIIe siècle (1180–1270)*, PhD (Paris, Université Paris IV – Sorbonne, 2015), II, 377–387. For England, see Toy, *Castles of Great Britain*, 153–154. See also Neil Ludlow, "William Marshal, Pembroke Castle and Angevin design," *Castles Studies Group Journal* 32 (2018–2019), particularly 222–227.

front was built by Kings Richard I and John I of England between the 1190s and 1204.[52] The extraordinary arrow-loops in the keep parapet and Lunn's Tower at Kenilworth (GB), with hypertrophic fishtail bases and sophisticated design, are attributed to the same king before 1216[53] (Figure II.12.5:2); here the bases of the triangles were 60 cm wide, while the bases at Domfront are 30 cm wide. At the same time, the Bell Tower in the royal Tower of London (GB) shows fine circular bases in its arrow-loops,[54] whereas the castle of Pembroke in Wales (GB), built by the famous William Marshall, uses flattened rectangles as bases.[55] The use of enlarged bases of different forms were soon to become a common feature in the English castles; from the beginning of the thirteenth century, the builders often also used cross-slits.

Curiously none of the castles and town walls built directly by King Philippe Auguste of France (1180–1223) and his lords, within the royal historic territories (Ile-de-France, Normandy, Picardy, Berry) used such arrow-loops, as if their absence was a symbol of identity. But enlarged bases were rapidly adopted in neighbouring territories during the three first decades of the thirteenth century, particularly in the former Angevin territories now under French royal control, as show the stirrup-based arrow-loops in the wonderful almond-shaped towers at Loches (FR), built between 1205 and 1224.[56] The bases were mostly triangular or semi-circular, but circular or small square bases also occured, all depending on the quality of the mason's work. In several cases they show cross-slits, which were to become standard in the English-held duchy of Gascony at the end of the thirteenth century (so-called *archères en croix pattée*, meaning arrow-loop with four enlarged extremities), and much later in Provence.[57]

During the second decade of the thirteenth century more elaborated bases, known as oar-shaped, appeared in the Kingdom of France: a very homogenous group of such arrow-loops is represented in several castles built in Auvergne after the conquest by Philippe Auguste's armies in 1210–1213: apart from the case of Cluny (dated 1220 by dendrochronology) none of them is surely dated, but they certainly belong to the first half of the century, like the magnificent towers of Bourbon-l'Archambault, around 1220.[58] Outside of these regions, four particularly important cases must be stressed here. One of them has already been cited, the *Tour de Foix* at Blois (France) (Figure II.12.4:6), with its striking resemblance to 'Atlit's arrow-loops; unfortunately, there is not any precise dating. The other three cases are the towers of the bailey at the impressive castle of Coucy-le-château (Figure II.12.4:7), the castle at Nogent-le-Rotrou and the huge royal castle of Angers (all France), probably built exactly at the same time, i.e. in 1225–1235. At Angers, it was the first time that the royal architects used enlarged bases, in a particularly spectacular manner; most probably, the same architects intervened in the two other fortifications.[59]

---

[52] Even if J. M. proposed in 1991 a dating to the end of the thirteenth century, the historical context denies it categorically; in 1993 (*Châteaux et enceintes . . .*, II, 285), J. M. proposed instead to attribute it to John I, as the sources clearly confirm. For the sources, see Cécile Cormier, "La courtine à gaine du château de Domfront: construction, destruction, restauration," *Le Domfrontais médiéval* 24 (2016–2017), 7–29; Thomas Stapleton, ed., *Magni Rotuli Scaccarii Normaniae*, 2 (London, 1844), lix, 352.

[53] Derek Renn, "Arrow-loops in the Great Tower of Kenilworth castle: Symbolism vs Active/Passive 'Defence'," *Castles Studies Group Journal* 25 (2011–2012), 175–179.

[54] Edward Impey and Geoffrey Parnell, *The Tower of London* (London and New York, 2011), 21–23. Ludlow, "William Marshal . . .," 225, suggests these circular "oillets" were a late addition.

[55] Ludlow, "William Marshal," 225.

[56] See Hayot, *L'architecture fortifiée . . .*, Annexes, 839–853, at 851. These towers were previously attributed to King Richard I before 1205, but a careful observation has shown that impacts of stones thrown during the siege of 1205 lack totally on their surface, whereas they are numerous on the walls. As the towers are not bounded into the walls, they are necessarily subsequent to the siege.

[57] See the map published in Mesqui, *Châteaux et enceintes . . .*, II, figure 349.

During the second half of the thirteenth century, enlarged bases were extensively used in French royal fortification, which mainly developed mostly in the south (Languedoc); the bases are triangular, or frequently quadrangular (spade-based), and a good example can be seen at Carcassonne (FR) (fig. 4.8). At the same time, more inventive forms were used by the English kings in their Welsh fortifications, like the double circular bases which can be seen at Caernarfon (GB), side-by-side with semi-circular and circular ones.

Discussion: origins, diffusion and use of enlarged-based arrow-loops

From the evidence gathered earlier, it seems clear that enlarged-based arrow-loops appeared around 1200, at the earliest, in Europe and in the Crusader states. We think that they were conceived in the Anglo-Norman region of influence, probably under the reign of King John. Their diffusion was rapid in all the territories of the former Anglo-Norman "Empire", were they under English or French royal control. In contrast, the rival King of France Philippe Auguste never used them in his fortifications: we will come back to that later.

In the Crusader principalities, *Margat/*Qal'at al-Marqab (Syria) is probably the first where such devices occur, certainly after 1202, but without any certainty about the exact date; all subsequent constructions of the thirteenth century seem to be equipped with enlarged bases. In Armenian Cilicia, the exact period in which they start to occur is not known. But it is our belief that all the fortifications mentioned here, characterized by a common architectural vocabulary (type of masonry, standardized U-shaped towers equipped by arrow-loops), did not develop until the beginning of the long reign of Het'um I (1226–1270).

---

[58] Mesqui, *Châteaux et enceintes . . .*, II, 288. Christian Corvisier, "Le château de La Roche et la diffusion de l'archère 'en rame' en Basse-Auvergne au XIIIe siècle," *Congrès archéologique de France* 158 (2000), 101–115. Frédéric Didier, "Saône-et-Loire. Cluny, la «tour ronde » de l'enceinte abbatiale," *Bulletin monumental* 162 (2004), 312–316.

[59] The dating of Coucy and Angers has been established for a long time. See Hayot, *L 'architecture fortifiée . . .*

The more elaborate forms, particularly the "oar-shaped bases", were imported from the Kingdom of France. The fact that the royal fortification of Caesarea (Israel) is the first to use them in the Crusader states stresses the role of the royal architects in the design of the walls, since they had used the same design at Angers (France) 20 years earlier.

But one could also look at this question from another angle, since the south-east tower is the only structure in the entire enclosure in which these bases occur. In the Crusader states, this type of enlarged base was used only by the Templars, from *Chastel-Pèlerin* (Israel) to *Sagette/*Saïda (Lebanon). Would it indicate that the architects of the Temple's Order in the Levant adopted the "oar-shaped base" as a pattern of their fortifications, meaning that it was they who built the south-east tower of Caesarea? It has been shown recently that the north-east tower of the same enclosure engulfed a former gate of the Islamic walls granted to the Teutonics in February 1206 by Juliana of Caesarea.[60] Moreover, the kings and princes often granted the Military Orders specific sectors of the fortification, with the responsibility to build and defend them, as it is well known in the case of *Acre/*Akko (Israel).[61] Thus, it would be possible that the unique tower of Caesarea showing oar-shaped bases was a Templar's construction.

Let us come now to the use of these devices shows clearly that there is no obvious correlation between the design of the embrasure (presence of a high sill, presence of a deep plunge) and the existence of enlarged bases. However, the general understanding is that they were meant to facilitate downwards shooting by the crossbowmen and archers. It was certainly true when they were large enough to widen the scope for the shooter. Nevertheless, the experiments led by Philippe Durand in 1998[62] at three thirteenth-century castles, Le Coudray-Salbart, Castelnaud and Budos (all FR), showed that one has to be careful not to draw too simple theories. He tried shooting with a longbow, a recurve bow and a crossbow, and showed that in these cases fishtail bases were simply useless for the archers/crossbowmen. A lot of the "enlarged" bases listed earlier could not improve conditions for shooting downwards, simply because they were not carved deeply into the stone, or not wide enough.

Perhaps it was the reason why more elaborated forms appeared, such as the oar-shaped arrow-loops. With this kind of enlargement of the lower third part of the slit, one could certainly expect that the downwards shooting would be considerably easier: it can be seen, for example, in Coucy (FR), where only the arrow-slits of the first floor were equipped with oar bases, whereas the slits at ground level were simple. It is also the case for hypertrophic fishtail bases like in Kenilworth (GB), where the bottom of the embrasure opened out as a square hole, allowing other projectiles to be dropped (Figure II.12.7).[63] Some have even proposed that these bases were intended for shooting or dropping burning missiles, which is imaginative but rather unrealistic.[64] Curiously, the most surprising use of such devices appears at Cluny (FR), where the embrasures could be used as latrines, with two lateral fillets on the sidewalls supporting a pierced seat in the embrasure (Figure II.12.8)!

---

[60] Vardit R. Shotten-Hallel, Jean Mesqui and Uzi Ad, "Three Main Towers of Medieval Caesarea: Architecture, Their Role and Function," in *Poliorcetics, The Art of Siege and Warfare from Antiquities to the Middle Ages*, eds Rabei J. Khamisy and Michael Eisenberg (Oxbow, 2020).

[61] Jean Mesqui, "La « barbacane » du Crac des Chevaliers (Syrie) et la signification du terme dans le bassin méditerranéen," *Bulletin monumental* 176–3 (2018), 215–234, here 219–220.

[62] Philippe Durand, "L'expérimentation de tir dans les châteaux: de nouvelles perspectives pour la castellologie," *Bulletin monumental* 156 (1998), 257–274, https://doi.Org/10.3406/bulmo.1998.1803000.

But none of these features ever generalized outside of some geographical areas and a limited time span. We have seen that in the Near East none of them were used within Muslim territories and that in Europe the French royal masons never used them in the numerous fortresses of King Philippe Auguste, whereas at exactly the same time they were adopted in the Kingdom of England, as well as in the former Angevin territories in France. Similarly, the oar-shaped arrow-loops persisted for only a quarter of a century in France. Even in a huge castle like Coucy, only two of the nine similar towers flanking the outer ward show such bases. If they were so efficient, why did they remain so isolated? Shooting experiments undertaken by Derek Renn in 1981,[65] as well as those led by Philippe Durand cited earlier, showed that it was relatively easy for an experienced archer staying outside of the fortification to successfully shoot through the slit of a conventional arrow-loop, potentially hitting the shooter behind it. If it was the case for normal slits, the risk was even greater with oar-shaped arrow-loops.

What is striking, finally, is the fact that all the Christian fortifications built in the Near East during the thirteenth and fourteenth centuries used enlarged bases, whereas the Muslims, who obviously knew the fortifications of their enemies, never used them. It shows that these arrow-loops were perhaps more emblematic or identity-related than really needed for the defence. In our sense, they worked probably as symbols for their patrons and result of constant exchange of practices.

In the same manner, arrow-loops played a prominent role in ostentation and displaying the military strength of the owner: the gigantic arrow-loops of Najac

---

[63] Humorously, Derek Renn asked the question if these fishtail bases were not an addition of the sixteenth century by Lord Leicester to “shower flowers” down on his invitees like ticker tape (“Arrow-loops in the Great Tower . . . ”, 179).

[64] Alain Salamagne, “Origines et diffusion des embrasures de tir dans l’architecture militaire de la fin du XII^{e} siècle: une réévaluation,” in *Le château médiéval et la guerre dans l’Europe du Nord-Ouest* (Lille, 1998), 61–75.

[65] Derek Renn and Peter Jones, “The Military Effectiveness of Arrow-Loops,” *Château-Gaillard* 9–10 (1982), 445–456.

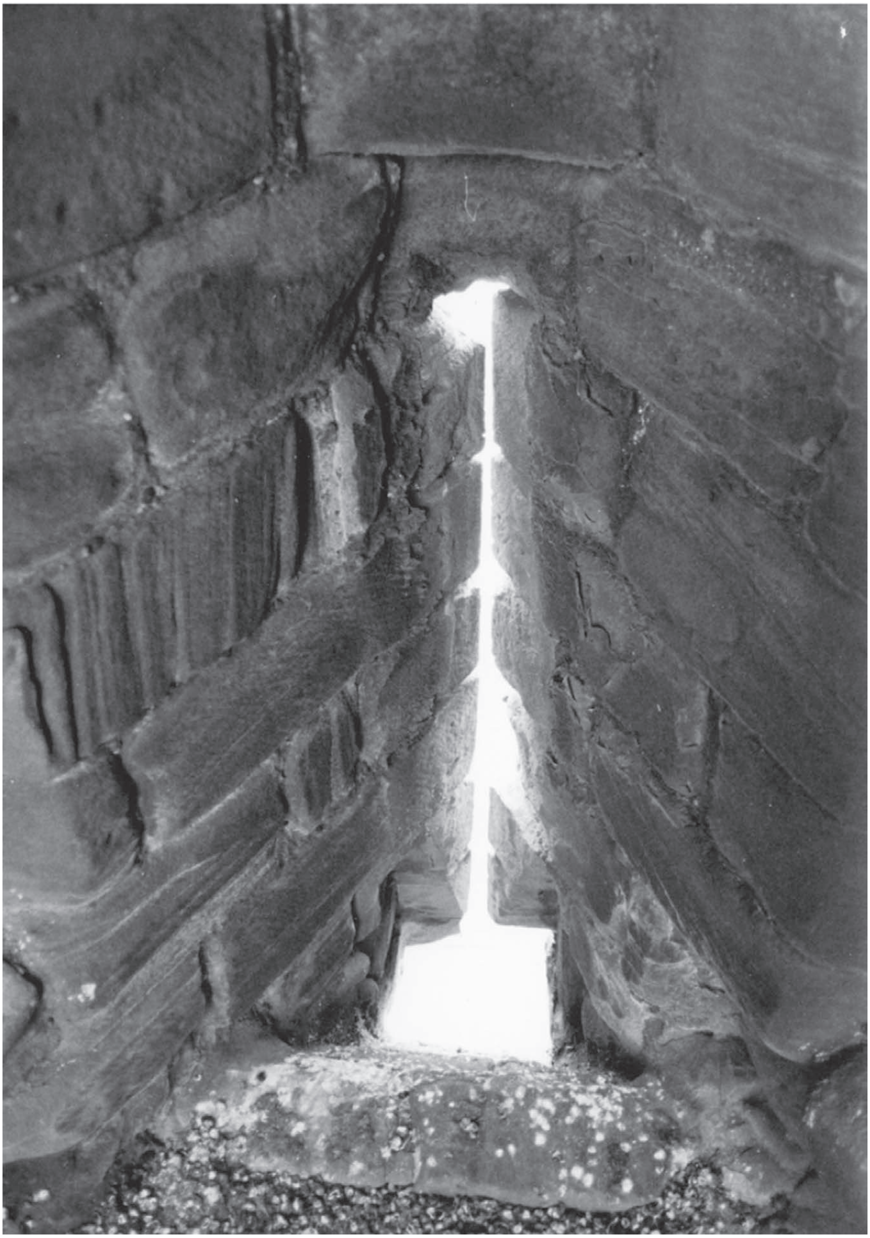


Figure II.12.7 Kenilworth (GB). Interior of an embrasure in the Great Tower, with an hypertrophic square hole, behind the also hypertrophic fishtail base (see Figure 12.5). © Castle Studies Group, photo R.K. Morris

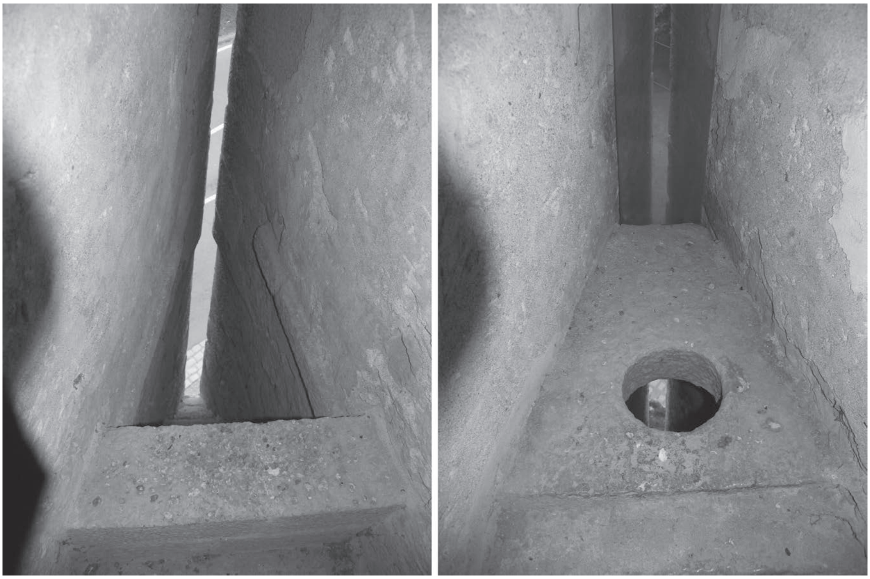


Figure II.12.8 Cluny (F). Round tower of the abbatial fortified enclosure. Two embrasures with oar-shaped slits, usable as latrines as well by addition of a pierced seat supported by two lateral mouldings (on the left, embrasure without stone, on the right embrasure with pierced stone). © CeCaB Hervé Mouillebouche

(FR), Aigues-Mortes (FR) and Warkworth (GB) (in the latter two cases manned by two shooters, one above the other!) are very significant, as are also the extraordinary arrow-loops of Kenilworth Lunn's Tower (GB) with their wide fishtail, their cross slit and their recessed surrounds. Enlarged extremities were certainly one of the means by which arrow-loops were visually enhanced, as shown by the group of "*archères en croix pattée*" in Gascony. This need for ostentation and display is particularly emblematic at Caernarfon, where the Black Tower, built 1283–1292, exhibits at its base three dummy arrow-loops with circular oillets. They were simply carved in the surface of the exterior dressing, but the wall was plain behind: so, it was only to impress the observers!

For visual emphasis, arrow-loops were frequently distinguished from the surrounding masonry through the use of different building-stone, often carefully carved. In the Near East, where the bossed masonry was widely used, the stones forming the slit were often more finely and more regularly cut (see, for example, Toprakkal**e** [Turkey]. The same can be said for the group of "highlighted" arrow-loops which have been recognized in some important Ayyubid fortresses

(Bosra [Syria], Jerusalem [Israel], al-Kerak {Jordan] (Figure II.12.6:8), Rumkale [Turkey] (Figure II.12.6:9), Subeibe [Israel]). In these examples, all built by the Ayyubids or the Mamluks, the number of arrow-loops is highlighted by a specific carving of the stones forming one side of the slit, generally a bossed block forming a vertical protruding edge parallel to the slit.[66]

---

[66] Goepp, "Les archères . . .," 44; Cyril Yovitchitch, *Forteresses du Proche-Orient: l'architecture militaire des Ayyoubides* (Paris, 2011), 310–313.

13 Texts, loopholes and quarrels

An example of perfect agreement among the historical sources, architecture and found objects in Safed Castle from the thirteenth century CE

Hervé Barbé

Adrian J. Boas, whose career we pay tribute to here, represents an archetype of the complete researcher in the history and archaeology of the Crusades. Those who, like us, have not had the chance to know Adrian personally, need only to consult his bibliography in order to be convinced of his merit.

As an historian, Adrian was clearly concerned with the sources – for example, in having written on the Frankish presence in Jerusalem between 1229 and 1244.[1] As an archaeologist, he studied the Frankish architecture in its different forms. Beginning with a simple building, a manor house in Judea, for example,[2] his spatial vision then widened to treating the "village-street", in the Ramot quarter of Jerusalem,[3] before further extending it to the complex urban organization of Crusader towns, such as Caesarea, Acre and the Holy City.[4] Our journey would be incomplete if we did not include Adrian's interest in the castle – Montfort of course, but also Ateret (*Vadum Yaacov*) or "Le Toron des chevaliers".[5] Finally, his studies have included even the simplest of objects.[6]

---

[1] A. J. Boas, "Return to the Holy City: Historical and Archaeological Sources on the Frankish presence in Jerusalem between 1229 and 1244," in *Tell it in Gath: Studies in the History and Archaeology of Israel: Essays in Honor of Aren M. Maeir on the Occasion of his Sixtieth Birthday*, *Ägypten und Altes Testament, Band 90*, eds. Itzhaq Shai, Jeffrey R. Chadwick, Louise Hitchcock, Amit Dagan, Chris McKinny and Joe Uziel, (Zaphon, Münster: Zaphon 2018), 1028–1050.

[2] R. Kettler and A. J. Boas, "Har Hozvim: A Frankish Manor House North of Jerusalem," *'Atiqot* 43 (2002), 185–205.

[3] A. J. Boas, "A Recently Discovered Frankish Village at Ramot Allon, Jerusalem," in *Autour de la première croisade. Actes du colloque de la Society for the Study of the Crusades and the Latin East*, ed. M. Balard (Clermont-Ferrand, 22–25 juin 1995) (Paris, 1996), 583–594.

[4] A. J. Boas, "L'architecture civile franque à Césarée, Acre et Jérusalem, in L'architecture en Terre Sainte au temps de Saint-Louis, sous la direction de N. Faucherre, B. Z. Kedar et J. Mesqui," *Bulletin Monumental* 161/1 (2006), 31–44.

[5] A. J. Boas, *Montfort: History, Early Research and Recent Studies of the Principal Fortress of the Teutonic Order in the Latin East* (Leiden and Boston: Brill, 2017).

[6] A. J. Boas, "Medieval and Post-Medieval Finds," in *Ramat Hanadiv Excavations: Final Report of the 1984–1998 Seasons*, ed. Y. Hirschfeld (Jerusalem, 2000), 211–225.

DOI: 10.4324/9781003146926-14

In view of this wide perspective of Adrian's work (and indeed reflecting his own approach), I believe it will prove of interest to present here one of the most remarkable approaches to cohesion among the historical (textual) sources, architecture and found objects that I have ever encountered.

- *The textual sources* comprise a treatise pertaining to the construction of Safed Castle in 1240. Among the many pieces of information that this text introduces, it is the organization of the garrison that will be the primary focus here.
- Of the many remains of *the architecture* uncovered and studied during the research that I conducted between 2002 and 2004, I relate here only to the loopholes in the walls of the castle.
- Regarding *the objects*, I will present an initial typological classification of the iron projectile points found at different sites in Safed.

Textual sources: the thirteenth-century CE manuscript

Only two castles in the Holy Land have been the subject of a treatise on their construction that has reached us: the first is on the Pilgrim castle in Atlit, written by Olivier the Scholastic; and the second, much more complete, relates to the castle in Safed. Entitled "*De Constructione Castri Saphet*", its author, an anonymous member of the entourage of Benedict of Alignan, Bishop of Marseilles, wrote the text between 1260 and 1266. He provides much information, such as the composition of the garrison, the dimensions of the first enclosure, the number of towers, etc.

Beginning with an analysis of the construction treatise, I will show how it allows us to characterize a corps of professional crossbowmen as the almost exclusive force responsible for active defence of the castle. Regarding the various loopholes, the architectural data collected during the excavations will demonstrate that their design is based on an exclusive use of the crossbow. I will then present, in the form of a typological study, the 100 projectile points discovered in the castle and in the town of Safed, based upon which we will clearly see that their most common types correspond to the quarrel.

The permanent garrison, as listed in the treatise, was composed of 430 men: 50 knights, 30 sergeant-brethren, 50 turcopoles and 300 "*balistarii*".[7] The meaning of the latter term requires an explanation. Paul Deschamps translated the term as "servant de baliste".[8] Huygens, in his annotated edition of the Latin manuscript, uses the word "*sagittaires*",[9] which reflects the term "archers" used by Pringle.[10] In the full English translation of the Latin text Kennedy translated *balistarii* as "crossbowmen",[11] explaining that this term should apply not only to soldiers specializing in the crossbow, but also to the users of larger devices similar to the crossbow as well as to different kinds of siege machines.[12] The treatise mentions on three other occasions the term *balistarii* or a variation of it, differentiating these soldiers from the other combatants. The very first lines of the text that describe the departure of the Crusaders from Acre, to Jaffa and Ascalon, include among the troops the "*balistariorum and peditum quasi innumerabilis multitudo*".[13] Later in the text, following the decision to rebuild the castle, the expedition to Safed was composed of "*militum, servientum, balistariorum et aliorum armatorum laudabilis comitiva*".[14] The architectural description of the castle mentions an underground gallery running along the circumference of the outer wall, at the base of it and above the ditch. This gallery connecting casemates to each other was called "*fortie cooperte*",[15] in which were located the "*balistarii cum magnis balistris*".[16] Given our knowledge of fortifications in the thirteenth century, we can interpret this structure as a lower vaulted gallery with niche loopholes, meant to defend the base of the glacis and the ditch. In here, according to the text, the soldiers manned large crossbows, or siege crossbow, i.e. the war engine required the presence of at least two operators,[17] as used in the Holy Land during the thirteenth century.[18] The construction treatise mentions the presence within the castle of various workshops necessary for the manufacture of "*balistarum*, *quarelorum et machinarum et aliorum armorum*".[19] Towards the end of the manuscript the author mentions that the territory of Safed and its 260 villages counted "*plusquam X milia hominum cum arcubus et sagittis*".[20] This last sentence is important because it indicates that the author perfectly differentiates between the professional soldiers, who use the "*baliste*" and the quarrels (*quareli*); and the occasionally recruited villagers, who carry a bow (*arcus*) and use arrows (*sagitte*). All the above data enable us to validate the translation proposed by Kennedy: *balistarii* as crossbowmen and *baliste* as crossbows. The old French term “arbaleste” used in the eleventh century CE by Rachi of Troyes is the contraction of arc-baleste (*arcus-balista*).[21]

---

[7] *De constructione castri Saphet*, R. B. C. Huygens ed. Construction et fonctions d'un château fort franc en Terre Sainte (=Koninklijke Nederlandse Akademie van Wetenshappen, Afdeling Letterkunde; Verhandelinge Nieuwe Reeks, III), Amsterdam, Oxford, New York, 1981: lines 208–210.

[8] P. Deschamps, *Les châteaux des croisés en Terre Sainte 1: Le Crac des Chevaliers Étude historique et archéologique* (Paris: Bibliothèque Archéologique et Historique, 1934), 102.

---

[9] *De constructione castri Saphet*, 14.

[10] D. Pringle, "Reconstructing the Castle of Safad. Review Article," *PEFQS* 117 (1985), 139–148.

[11] H. Kennedy, *Crusader Castles* (Cambridge, 1994), 191.

[12] Ibid., 210, n.3.

[13] "The uncountable number of crossbowmen and footsoldiers": *De constructione castri Saphet*, lines 15–16.

[14] "The commendable assembly of knights, officers, crossbowmen and other armed people": *De constructione castri Saphet*, lines 119.

[15] *De constructione castri Saphet*, lines 176–179.

[16] *De constructione castri Saphet*, lines 179–180.

[17] R. Beffeyte, *L'art de la guerre au Moyen Âge* (Rennes, 2005), 88.

[18] Jean de joinville. *Vie de Saint Louis*, ed. J. Monfrin (Paris, 1995), n°547.

[19] *De constructione castri Saphet*, lines 184–185.

[20] *De constructione castri Saphet*, lines 160.

The architecture: the loopholes

Three curtain wall sections of the inner rampart have been excavated at the Safed Castle. The southern part of the western curtain wall (W200), facing north/north-west, south/south-east, still presents five loopholes (Figure II.13.1). Very

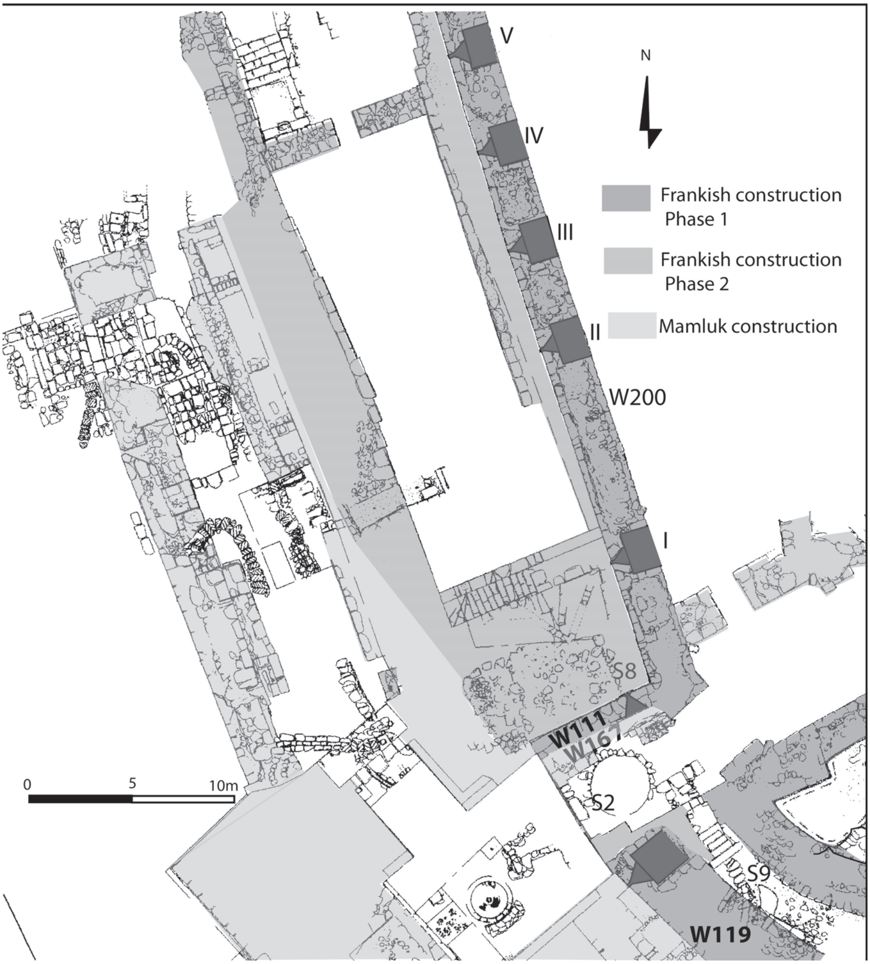


Figure II.13.1 Remains in the south-west sector of Safed Castle discovered between 2002 and 2004. © IAA

---

[21] M. Catane, *La vie en France au XI^{e} siècle d’après les écrits de Rachi*. Editions Gallia (Jérusalem, 1994), 174.

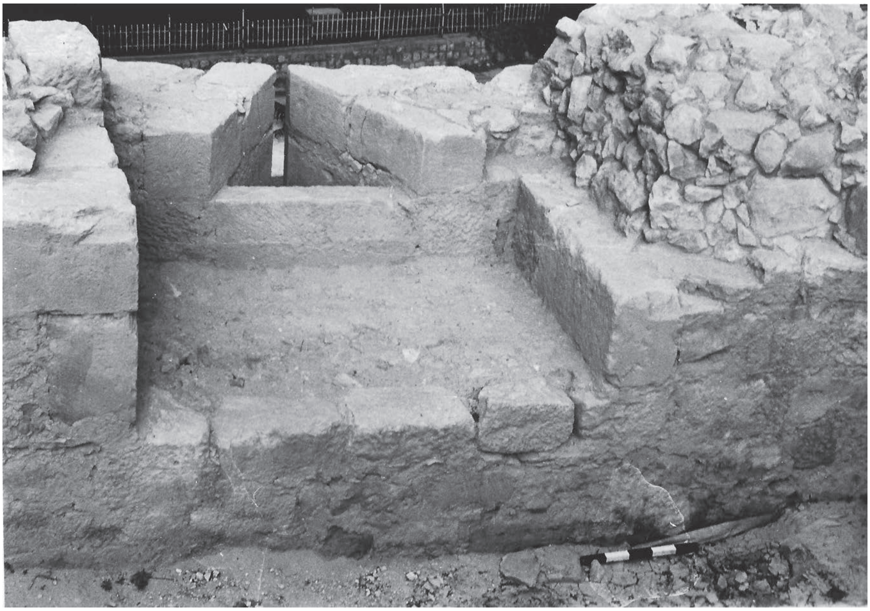


Figure II.13.2 Loophole III in the western inner curtain wall (looking west, photo Tsila Sagiv, IAA).

standardized in dimensions/shape, they all feature similar-sized niches (1.80 m wide x 1.20 m deep, Figure II.13.2). Opening into the internal facing of the curtain wall, the niches are closed in front by a shooting window with double embrasure completed by a recess ("retrait" in French, 12 cm deep x 9 cm wide). The threshold of the shooting window, located higher than the floor of the niche inside, forms a sill. Externally, the threshold presents a plunge, very strongly inclined downwards, and thus offering an angle of fire oriented towards the base of the curtain wall (Figure II.13.3).

A distance of 9.7 m separate the axes of the first and second firing slots, while there is an interval of 4.5 m between the other four (II to V). The southern corner of the wall forms almost a right angle, establishing a salient, north/north-east, south/south-west in orientation (W111).

The remains of a loophole can be seen in the salient. A rib vault building (S8), erected during the second phase of Frankish construction in the thirteenth century, abuts the external side of this wall. During the Mamluk period, the installation of a gate in the salient (S2, W169) area demolished the niche of this loophole. Nevertheless, the embrasure is perfectly preserved here, which is not the case in the niches previously described belonging to wall W200" (Figure II.13.4 – Figure II.13.5).

As the dimensions of all these embrasures are equivalent, it seems reasonable to propose a complete reconstruction common for all of them (Figure II.13.6 – Figure II.13.7).

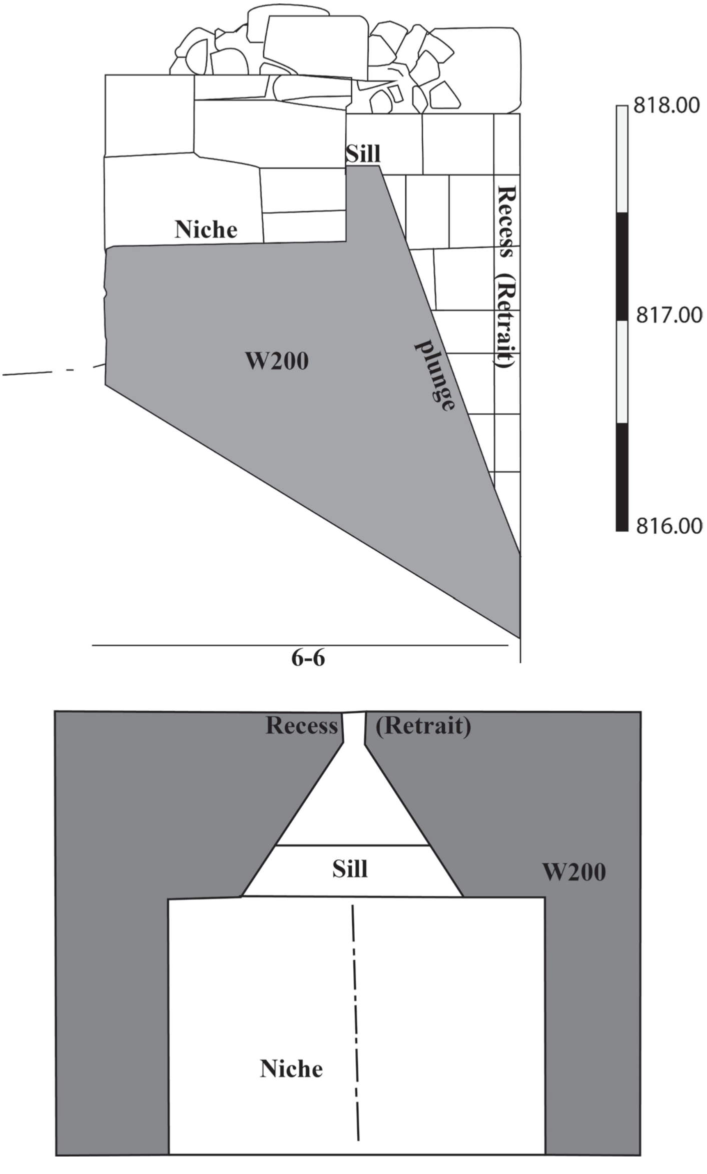

Sill
Niche
Recess (Retrait)
W200
plunge
818.00
817.00
816.00
6-6
Recess (Retrait)
Sill
W200
Niche

Figure II.13.3 Plan and section of loophole III. © IAA

This reconstruction indicates that the niche was covered by a pointed vault and the embrasure by a flat lintel, whose base is enhanced by a sill. The recessed slot is equipped with a strong plunge and a small, pointed recess which is only decorative in nature and common in Frankish architecture.

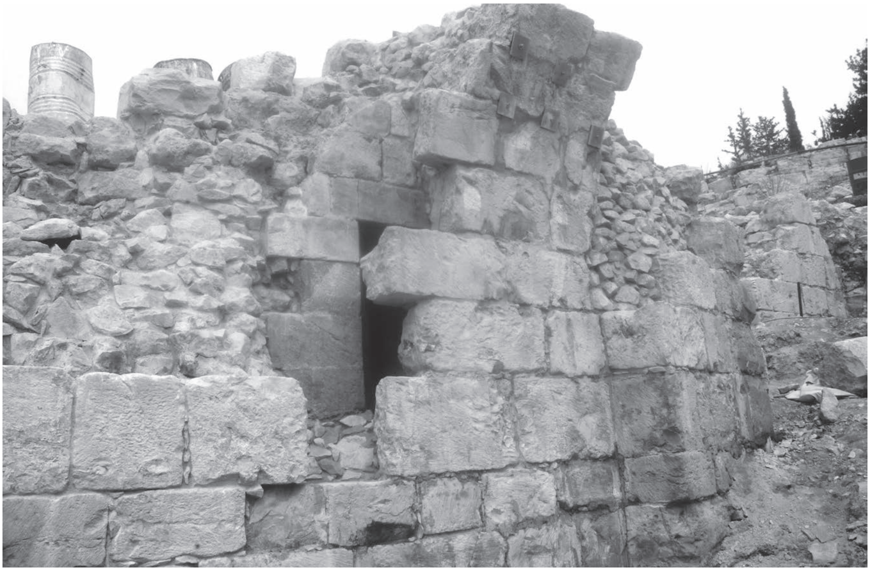


Figure II.13.4 Remains of the loophole in wall W111 of the salient preserved behind the northern wall of the Mamluk gate (looking north, photo Tsila Sagiv). © IAA

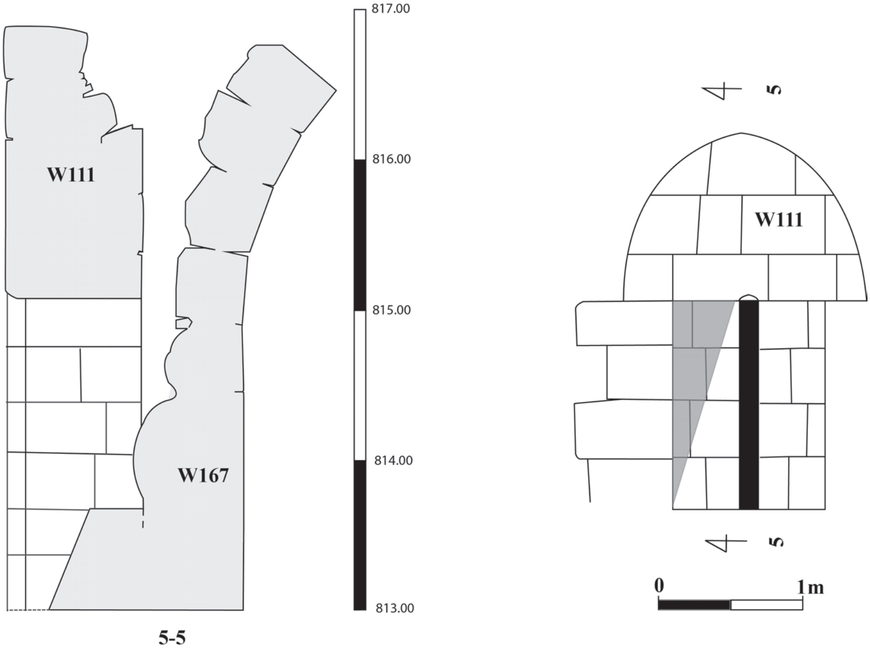

W111
W167
5-5
817.00
816.00
815.00
814.00
813.00
4
5
W111
4
5
0
1m

Figure II.13.5 Elevation and section of the loophole in the salient wall (W111). © IAA

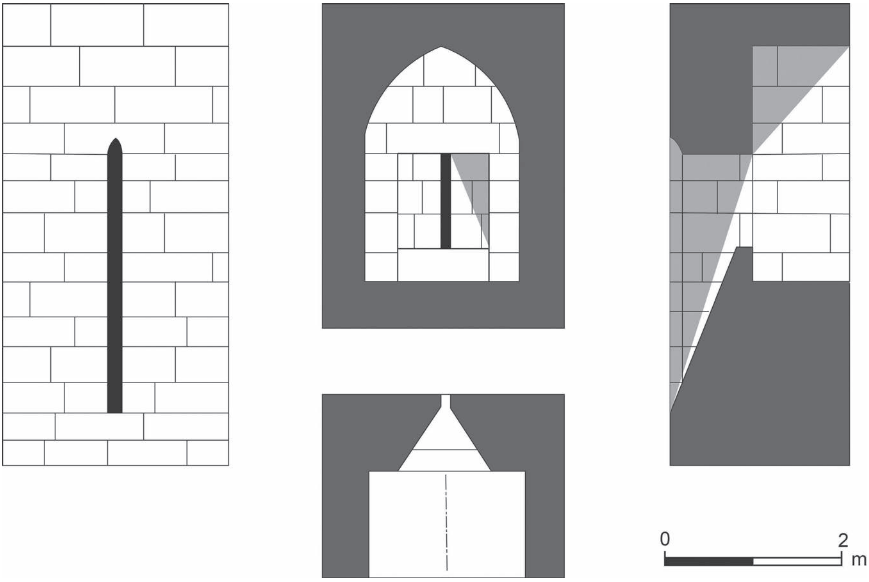


Figure II.13.6 Architectural restauration of the Safed Castle loopholes in the inner curtain wall (W111, W200). © IAA

This reconstruction should now allow us to reflect on the functional aspects. If an archer was able to stand in the niche, the base of the lintel of the shooting window, located 1.4 m from the floor, would not allow him to shoot head-on from his position. To perform this type of shot, the archer would have had to kneel. While standing, he could only perform a diving shot from an angle strongly limited by the presence of the sill.

To take full advantage of the slope, which was provided via the loophole, the archer would have needed to approach it in such a way that, following the shot, the wooden bow, when disengaging, would have hit the lintel, at the risk of breaking. The types of bow used by the Franks, whether a longbow (2 m) or a Burgundian (1.6 m), did not in any case enable optimization of the sill to ensure the defence of the base of the rampart.[22] Only the Saracen bow (about 1.2 m), used by the turcopoles, of whom there were 50 in the permanent garrison of Safed, would allow partial use of the plunge.[23] These functional restrictions on the use of the loophole, however, and specifically of its plunge, does not exist if one considers the use of the crossbow. The width at the threshold of the shooting window is on average one

---

[22] Beffeyte, *L'art de la guerre au Moyen Âge*, 55–57.

[23] R. Roth, *Histoire de l'archerie: Arc et arbalète* (Paris, 2004), 105.

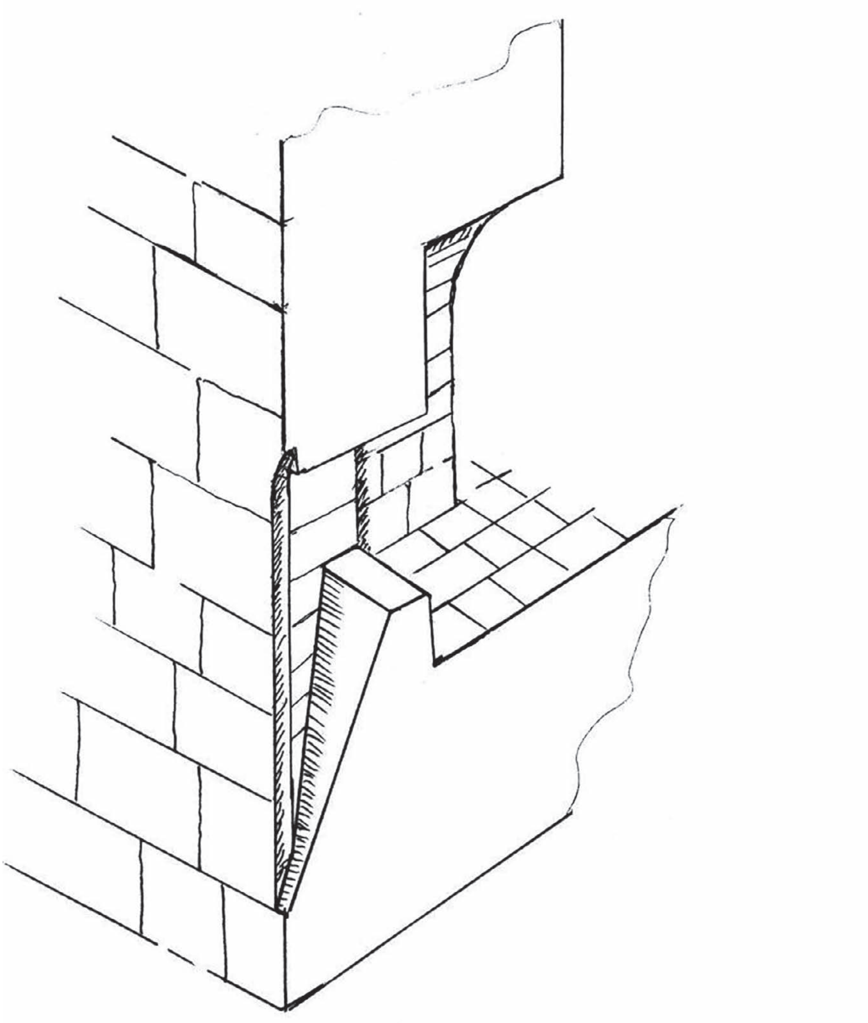


Figure II.13.7 Isometric restoration of Safed Castle loopholes. © IAA

metre (0.9 m to 1.1 m), while the wingspan of the arch of the medieval crossbow ranges from 0.73 m to 0.76 m.[24] The loopholes in the second enclosure of Safed, unsuitable for the bow, must therefore be considered as crossbow loopholes or "*arbalètrières*" (in French).

---

[24] Ibid., 193.

The objects: a typology of the projectile points: arrowhead or quarrel?

Seventy iron projectile points were collected during the various campaigns carried out at the castle of Safed, with 12 other examples discovered on the site of a Jerusalem street, in an urban Crusader quarter at the foot of the castle, and four in the al-Waṭṭa quarter in a Mamluk village (*rabad*) built in 1267 by Sultan Baybars following the destruction of the Frankish city. With 86 objects now at our disposal, we are able to begin the preliminary work of a typological study that is sorely lacking for the Near East in general, and the Holy Land in particular.

This set of objects is presented here in the form of tables, according to site (Tables II.13.1–3), and to an initial classification based on the association of

Table II.13.1 Safed. The castle: typological classification of iron projectile points.

N°	*Locus*	*Basket*	*Type*	*Profile*	*Section*	*Length 1 in cm*	*Length 2 in cm*	*Section in cm*	*Weight in gr*
1	1014	10010	A	Diamond-shaped	Three-square	4,98	**1,20**	0,98/0,55	07,29
2	1049	10197	B	Diamond-shaped	Irregular	**6,04**	**3,68**	1,88/0,92	08,47
3	1061	10263–2	C	Pyramidal	Three-square	4,84	**2,82**	0,89/0,83	05,93
4	1076	10278	D	Pyramidal	Square	**4,45**	**1,98**	1,18/1,18	07,64
5	1020	10056–3	E	Pyramidal	Square		3,08	1,16	06,23
6	1059	10271		Pyramidal	Square	4,12	**3,86**	1,00/1,00	07,16
7	1004	10068		Pyramidal	Square	3,80	3,20	1,00/1,00	07,45
8	1040	10152–2		Pyramidal	Square		3,40	1,30	08,20
9	1044	10205		Pyramidal	Square		3,98	0,90/0,90	08,34
10	1097	10340–5		Pyramidal	Square		**3,98**	1,00/0,95	08,63
11	1097	10340–2		Pyramidal	Square	5,27	**4,01**	0,94/0,88	09,30
12	1097	10340–1		Pyramidal	Square	**7,20**	**4,05**	0,82/0,74	09,43
13	1087	10305–3		Pyramidal	Square	**6,12**	**3,74**	0,78/0,74	09,44
14	1060	10219		Pyramidal	Square	6,48	**4.38**	0,89/0,86	09,49
15	1087	10345		Pyramidal	Square		4,05	0,90/0,90	09,58
16	1060	10221		Pyramidal	Square	5,00	3,38	1,05/1,04	09,83
17	1126	10385–1		Pyramidal	Square	**5,88**	**3,45**	1,04/0,98	09,98
18	1077	10295		Pyramidal	Square	4,36	3,65	1,16/1,14	10,25
19	1097	10340–4		Pyramidal	Square	5,80	**4,10**	0,93/0,92	10,37
20	1061	10263–2		Pyramidal	Square		4,98	1,10/1,10	10,45
21	1087	10303–1		Pyramidal	Square	4,78	3,80	1,02/0,98	10,48
22	1097	10340–3		Pyramidal	Square	5,68	**4,26**	0,82/0,72	10,54
23	1032	10097		Pyramidal	Square		4,86	0,96/0,90	10,56
24	1017	10030		Pyramidal	Square		3,69	1,02/1,02	10,71
25	1040	10152		Pyramidal	Square	4,20	4,04	1,22/1,17	10,92
26	1061	10263–1		Pyramidal	Square	5,43	**3,93**	1,06/1,05	10,93
27	1020	10122		Pyramidal	Square		3,66	1,28/1,22	11,09
28	1044	10356–2		Pyramidal	Square	3,90	2,84	1,14/1,14	11,15
29	1041	10140–3		Pyramidal	Square	4,70	3,65	0,95/0,90	11,44
30	1127	10386–2		Pyramidal	Square	4,58	**4,20**	1,04/1,00	11,57

N°	*Locus*	*Basket*	*Type*	*Profile*	*Section*	*Length 1 in cm*	*Length 2 in cm*	*Section in cm*	*Weight in gr*
31	1035	10108		Pyramidal	Square		4,20	1,18/1,16	11,61
32	1020	10120–3		Pyramidal	Square	5,62	**4,48**	1,08/1,02	11,71
33	1086	10339		Pyramidal	Square	4,20	3,68	1,28/1,18	11,78
34	1049	10193		Pyramidal	Square	**6,85**	**4,80**	1,18	11,95
35	1044	10356–1		Pyramidal	Square	4,54	3,78	1,18/0,97	12,08
36	1041	10153		Pyramidal	Square	5,06	3,98	1,08/1,00	12,22
37	1078	10285–2		Pyramidal	Square		**4,80**	1,16/1,14	12,78
38	1020	10056–2		Pyramidal	Square	4,00		1,44/1,44	13,35
39	1087	10305–4		Pyramidal	Square	4,30	4,11	1,14/1,06	13,66
40	1078	10285–1		Pyramidal	Square	6,84	5,74	0,92/0,92	13,77
41	1020	10120–4		Pyramidal	Square		5,00	1,49/1,48	13,78
42	1034	10105		Pyramidal	Square		4,80	1,28/1,28	14,40
43	1041	10140–1		Pyramidal	Square	**8,49**	**5,48**	0,80/0,80	14,41
44	1041	10140–4		Pyramidal	Square		**5,00**	1,28/1,26	14,86
45	1082	10300		Pyramidal	Square	6,28	**4,76**	1,04/1,00	15,82
46	1076	10278		Pyramidal	Square		4,80	1,20/1,20	16,81
47	1020	10056		Pyramidal	Square	5,60	**4,68**	1,00/0,98	17,55
48	1119	10370		Pyramidal	Square	5,10	4,48	1,18/1,14	19,14
49	1020	10060–2		Pyramidal	Square		4,00	1,58/1,54	19,92
50	1020	10060–3		Pyramidal	Square		4,30	1,50/1,50	21,18
51	1020	10060–1		Pyramidal	Square			1,90/1,80	29,65
52	1049	10177		Pyramidal	Square		**5,78**	1,80/1,64	33,18
53	1044	10381	F	Pyramidal	Diamond-shaped	4,64	3,38	1,26/0,98	07,61
54	1056	10226		Pyramidal		3,60	3,14	1,32/1,18	08,39
55	1122	10378		Pyramidal	Diamond-shaped	4,08	3,60	0,90/0,84	08,60
56	1126	10385–2		Pyramidal	Diamond-shaped		4,51	1,10/1,00	08,83
57	1127	10386–1		Pyramidal	Diamond-shaped	4,22	3,56	1,28/1,00	10,30
58	1040	10158		Pyramidal	Diamond-shaped	4,85	4,14	1,08/1,19	11,55
59	1041	10133		Pyramidal	Diamond-shaped	5,06	**4,40**	1,19/1,18	11,84
60	1087	10305–1		Pyramidal	Diamond-shaped	**6,28**	**4,24**	1,44/1,18	11,98
61	1078	10285–3		Pyramidal	Diamond-shaped	4,85	4,64	1,30/1,18	13,24
62	1082	10298		Pyramidal	Diamond-shaped	5,20	4,32		13,64
63	1061	10263–3		Pyramidal	Diamond-shaped		4,60	1,80/1,56	14,19
64	1041	10140–2		Pyramidal	Diamond-shaped	5,11	4,28	1,60/1,48	15,27
65	1020	10120–1		Pyramidal	Diamond-shaped		4,90	1,60/1,50	16,33

(*Continued*)

Table II.13.1 (Continued)

N°	*Locus*	*Basket*	*Type*	*Profile*	*Section*	*Length 1 in cm*	*Length 2 in cm*	*Section in cm*	*Weight in gr*
66	1020	10120–2		Pyramidal	Diamond-shaped	6,78	**4,84**	1,65/1,56	17,35
67	1087	10305–2		Pyramidal	Diamond-shaped	**6,82**	**4,18**	1,50/1,26	17,63
68	1016	10018	E/F	Pyramidal	Undetermined		4,06	1,4	10,19
69	1041	10184		Pyramidal	Undetermined		5,50	1,50	19,25
70	1040	10162	F-2	Pyramidal	Diamond-shaped	9,09	**6,13**	1,80/1,62	45,92

Table II.13.2 Safed: Jerusalem Street: typological classification of iron projectile points.

N°	*Locus*	*Basket*	*Type*	*Profile*	*Section*	*Length 1 in cm*	*Length 2 in cm*	*Section in cm*	*Weight in gr*
1	17	101–2	E	Pyramidal	Square	**8,20**	**5,50**	0,84/0,84	09,72
2	46	127–1		Pyramidal	Square	4,86	4,18	1,13/1,12	10,07
3	30–2	116–24		Pyramidal	Square	5,60	3,80	0,98/0,98	11,35
4	47	130–20		Pyramidal	Square	**7,02**	**4,00**	1,24/1,14	12,80
5	37	120–30		Pyramidal	Square		4,15	1,28	13,48
6	49	132–1		Pyramidal	Square	6,10	3,90	1,20/1,10	13,69
7	37	120–29		Pyramidal	Square	6,50	5,90	1,00/1,00	14,07
8	31	117–1		Pyramidal	Square	4,95	3,90	1,40/1,30	15,99
9	37	120–28		Pyramidal	Square	**7,30**	**4,46**	1,18/1,10	16,42
10	17	101–1	E-2	Pyramidal	Square	**9,30**	**5,60**	1,48/1,48	41,34
11	45	138–2	F	Pyramidal	Diamond-shaped	4,95	**3,42**	1,10/0,90	08,51
12	17	101–3	G	Leaf-shaped	Diamond-shaped	6,04	5,20	1,10/0,96	11,80

Table II.13.3 Safed: al-Waṭṭa quarter: typological classification of iron projectile points.

N°	*Locus*	*Basket*	*Type*	*Profile*	*Section*	*Length 1 in cm*	*Length 2 in cm*	*Section in cm*	*Weight in gr*
1	1011	10021–1	D	Pyramidal	Square	**4,00**	**1,80**	1,30/1,30	07,50
2	1007	10010–1	E	Pyramidal	Square	7,20	4,50	0,70/0,70	10,83
3	1007	10014–1	E	Pyramidal	Square	6,10	3,60	1,10/1,00	12,66
4	1012	10027–1	E	Pyramidal	Square	**5,90**	5,40	1,30/1,30	17,80

profile/section.[25] Three profile forms have been determined: diamond-shaped, pyramidal and leaf-shaped. For the sections, four shapes have been noted: three-square, square, diamond-shaped and irregular.

From the profile/section association, seven different types of projectile points can be determined (A–G, Figure II.13.8). Two types (E and F) each have a sub-type (E-2 and F-2) which differs from the original group only in measurements

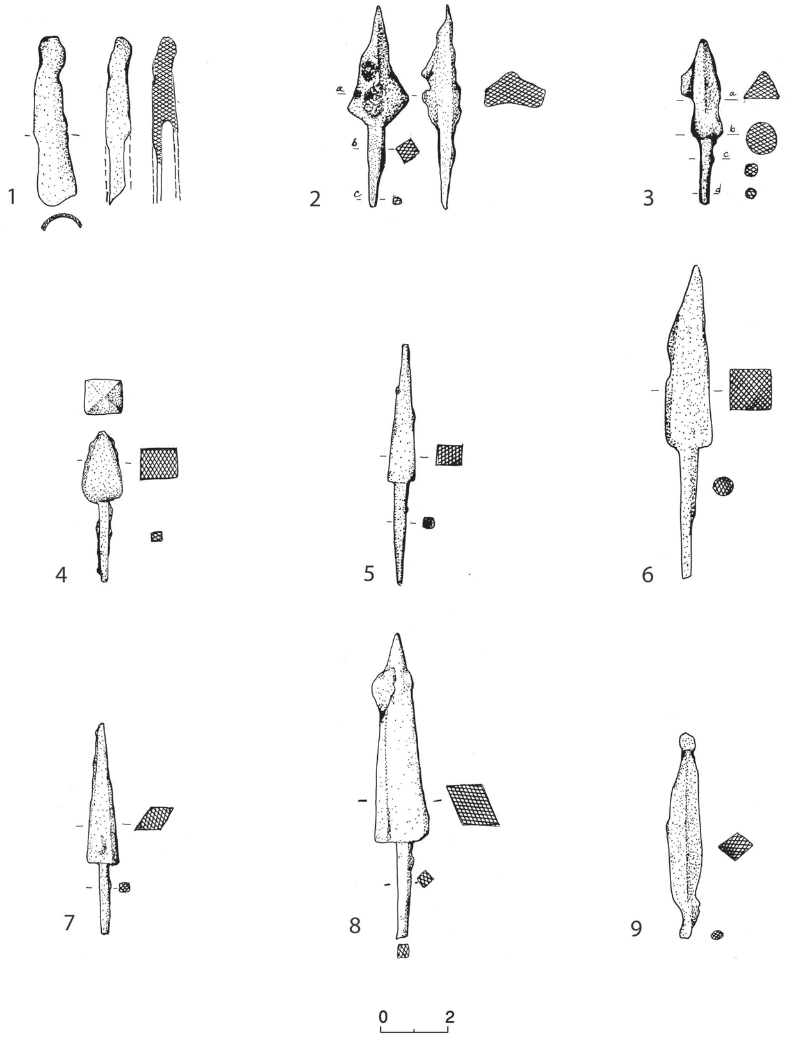


Figure II.13.8 Typological classification of projectile points from Safed. © IAA

---

[25] V. Serdon, *Armes du diable, arcs et arbalètes au Moyen Âge*. Presses universitaires de Rennes (Rennes, 2005), 88.

(dimensions and weight). Of these seven types, four are represented by a single object (A, B, C and G). A type is represented by two objects (Type D). The latter two types, which constitute the overwhelming majority of these draught irons, have a pyramidal profile and are mostly associated with a square section (Type E, 68.96%), with a smaller number being diamond-shaped (Type F, 18.39%). Two objects are too degraded for their type to be properly identified, but their profiles are again pyramidal in shape. Finally, the two subtypes (E-2 and F-2) are respectively represented by a single object. Only one tip is mounted on a socket (Type A), with all the others being equipped with a tang.

The values presented in the tables express the total or maximum measured length of the object, head and socket or head and tang (length 1), and the total or maximum length of the head (length 2). Values are indicated in bold for objects for which the projectile point (head and tang), or only the head, was complete. The sections were measured from side to side for square sections and from ridge to ridge for triangular and diamond sections.

Partial presentations of this set have already been published and the complete study is to be published soon in the final report on Safed Castle. Here, I summarize the findings and develop the description and comparisons only for the projectile points corresponding to the quarrels.[26]

Projectile point type A: quarrel with socket (Figure II.13.8:1)

This type is represented by only one object. Its profile is marked by a throttle between the very short head and the socket. The three-square section head, with a very thick diamond-shaped profile, is mounted on a conical socket consisting in a rolled metal sheet that extends slightly downwards.

This type of crossbow quarrel has been found in Europe and especially in France, particularly at the site of Rougiers.[27]

Projectile point type B: arrowhead (Figure II.13.8:2)

Represented by a single specimen, this projectile point falls into the category of a diamond-shaped head, although its shape tends to resemble more a three-square profile. Similarly, the section, which is rather triangular, mostly due to its bad state of preservation, should be classified as irregular. The head is mounted on a thick square tang, with a section in its upper part that refines downwards into a round section at the base.

---

[26] H. Barbé, “Mamluk and Ottoman Remains in the al-Waṭa Quarter, Safed (Ẓefat),” *‘Atiqot* 78 (2014), 113–137; “Safed (Ẓefat), Jerusalem Street: Crusader Period Remains in the Vicinity of the Castle,” *‘Atiqot* 81 (2015): 45*–84*.

[27] Demians d’Archimbaud G. Rougiers, *Village médiéval de Provence: approches archéologiques d’une société rurale méditerranéenne*, 5 vols. (Université de Lille III, 1980), 1078, Figure 391: 21–35.

Projectile point type C: arrowhead (Figure II.13.8:3)

This type is represented by only one object. It has an overall pyramidal profile, albeit marked by a slight throttle at the base of the head, creating a shoulder between it and the tang. The head has a triangular section. The tang has a round section and is separated from the head by a round shoulder section.

Projectile point type D: quarrel (Figure II.13.8:4)

This type, represented by two examples, is essentially characterized by an extremely balanced ratio of dimensions between the head and the tang. The head reveals a curved pyramidal profile and a quadrangular section with a flat heel at its base, on which is mounted a square tang. Comparisons are relevant with two objects found at Zuba (Belmont Castle): the first in a poorly dated context that may relate to phases B to D (1099–1917), while the second is much better dated (1099–1187). In these two cases, the Belmont projectiles have been interpreted as crossbow quarrels.[28]

Projectile point type E: quarrel (Figure II.13.8:5)

This type is by far the most widespread (48 examples at the castle, nine from the Jerusalem Street and three at al-Waṭṭa). It is characterized by a head displaying a regular pyramidal profile, a square section, a flat heel at the base mounted on a circular tang, occasionally quadrangular. The head is always longer than the tang, with the head/tang ratio varying from 1.4 to 1.7.

This type, well represented in the medieval complexes of the Eastern Mediterranean from the eleventh to the fifteenth century CE, also characterizes the majority of the projectile points discovered in a set dated from the Ayyubid period inside the keep of the castle of Harim.[29] However, above all, it characterizes most of the 1,243 projectile points discovered at the site of Arsuf and linked to the siege of that castle by the troops of Sultan Baybars in 1265.[30]

Projectile point type E-2: quarrel (Figure II.13.8:6)

This projectile point is in every way identical in typology to type E, from which it differs only in dimensions and a significantly greater weight. It could therefore correspond to a quarrel of the siege crossbow (*magna ballista*). This has been suggested for classification of the projectile points from France for objects weighing more than 40 g.[31]

---

[28] A. Grey, "The Metalwork," in *Belmont Castle: The Excavation of a Crusader Stronghold in the Kingdom of Jerusalem*, eds. R. P. Harper and D. Pringle, British Academy Monographs in Archaeology 10 (Oxford, 2000), 131–139 (134, Figure 11.3: 45).

[29] S. Gelichi, "Il castello di Harim: un sito fortificato tra musulmani e crociati nella Siria del nord," *Archeologia Medievale* 30 (2003), 431–452. Florence, 442 et Figure 28.

[30] K. Raphael and Y. Tepper, "The Archeological Evidence from the Mamluk Siege of Arsuf," *Mamluk Studies Review* 9 (2005), 85–100, 85.

Projectile point type F: quarrel (Figure II.13.8:7)

This type, with a significant number of specimens (15 from the castle and one from the Jerusalem Street), is characterized by a head with a regular pyramidal profile, like that of type E but with a diamond-shaped section. The head, with a flat heel at the base, is mounted on a quadrangular tang. The head is always longer than the tang. This type comprises the second group – of 1,243 iron projectile points found at Arsuf Castle from the siege of 1265.[32]

Projectile point type F-2: quarrel (Figure II.13.8:8)

This projectile point, represented by only one object, is characterized by a regular pyramidal profile, a diamond-shaped section and a flat heel base. The head, with the flat heel at the base, is mounted on a quadrangular tang. In typology this quarrel is in every way identical to type F, from which it is distinguished only in dimensions and a clearly heavier weight. This must therefore, similar to type E-2, correspond to a siege crossbow projectile.

Projectile point of type G: arrowhead (Figure II.13.8:9)

This type, represented by a single specimen, is characterized by a leaf-shaped profile head, very elongated, with a diamond-shaped section, mounted on a circular tang section.

In conclusion we are now able to reaffirm the remarkable cohesion between the textual data, the architectural restitution of the loopholes and the results of the typological study of the various projectile points.

The construction treatise to the thirteenth century CE attests to the presence of a professional corps of crossbowmen, who took on a significant role in the active defence of the castle.[33] Consequently, the functional conception for the architecture of the loopholes was exclusively designed for use by the crossbow.

Finally, we can suggest, with some reservations, that six of the nine types of projectile points found at the site in Safed were quarrels, used with hand crossbows and siege crossbows. Only one of these has been mounted on a socket (possibly imported from France or Europe?). Otherwise, all of these quarrels introduced projectile head points mounted on a tang. But for this, Safed is not an exception and we assume that, in proportion, the same phenomenon characterized also the projectile point found in Arsuf.[34] Belvoir[35] and probably *Vadum Jacob*.[36] Hundreds of projectile points were found on each of these medieval sites; the latter, however, awaits full publication.[37]

---

[31] Serdon, *Armes du diable*, 89.

[32] Raphael and Tepper, “The Archeological Evidence,” 85.

[33] *De constructione castri Saphet*, Footnote 7.

Local production has possibly favoured the use of the tang to that of the socket, mainly due to the economic need to save in metal, the ore of which is virtually non-existent in the Near East Orient. Metal ores, particularly iron, were systematically imported during the period of the crusades to the Latin Kingdom of Jerusalem.

---

[34] Raphael and Tepper, "The Archeological Evidence," 30, 32.

[35] Current study of the author on a series of 37 projectiles points. Unpublished.

[36] A. J. Boas, *Crusader Archaeology: The Material Culture of the Latin East* (London and New York, 1999), Figure 6.3.

[37] A. J. Boas, *Archaeology of the Military Orders. A Survey of the Urban Centres, Rural Settlement and Castles of the Military Orders in the Latin East (c. 1120–1291)* (London and New York, 2006), 193.

14 A tombstone from Safed

New evidence for the Templar Castle Chapel (?)

'Abdallah Mokary and Vardit R. Shotten-Hallel

Introduction

Returning to the East after some 20 years, Bishop Benoît d'Alignan (Bishop of Marseille 1229–1267) commended the Templar castle of Safed as an exquisite wonder, fitting of a deed of God. The well-known text describing the building operation from this perspective lists the many buildings erected by the Templars since the commencement of works in 1241. The text has been regarded by scholars as a fund-raising treatise, reflecting the personal view of the bishop, who considered himself as having motivated the campaign.[1] The anonymous author, on behalf of the bishop, details the defences and fortifications, towers, and the many workshops for all necessities (*diversis officinis ad omnes usus necessarios*).[2] It should be noted, however, that the author makes no mention of a chapel, an undoubtedly valuable component, as part of this newly established Military Order's castle. Yet not one piece of evidence for the existence of such a building had come to light – until today.

An architectural element used as a tombstone bearing an epitaph, recently retrieved during excavation of an Ottoman cemetery near the castle may ascribe to the chapel. The proximity, although not immediate, of the Ottoman Period cemetery to the castle of Safed makes it likely that the excavated element originated from one of the castle's buildings, and probably from the castle chapel.

In this study, based on a comparative analysis of other finds from the castle and other rib vaults found in the Kingdom of Jerusalem, we discuss the possibility that a tombstone from the cemetery had originated in the castle chapel of Safed and that it sheds some light on the chapel's architectural grandeur.

---

[1] Hugh Kennedy, *Crusader Castles* (Cambridge, 1994), 190; Ronnie Ellenblum, *Rural Settlements* (Cambridge, 1998), 216; Alain Demurger, "Les ordres religieux-militaires et l'argent," in *The Templars and Their Sources*, eds. Karl Borchardt, Karoline Döring, Philippe Josserand and Helen Nicholson (Routledge, 2017), 176.

[2] *De constructione castri Saphet. Construction et fonctions d'un château fort franc en Terre Sainte* (Amsterdam, Oxford and New York, 1981), line 184.

DOI: 10.4324/9781003146926-15

Safed Castle Chapel

Safed Castle is situated on a hilltop of Eocene limestone, which was used for the castle's construction.[3] In the eighteenth and nineteenth centuries the city and the area of the castle were repeatedly damaged by a series of earthquakes: one in October and a second in November 1759, and a fatal earthquake in January 1837.[4] Excavations conducted during 2001–2003 by Hervé Barbé and Emanuel Damati focused on the southern and south-western areas of the castle, exposing the remains of a gate tower and a ramp, segments of a curtain, and a round tower.[5] A castle chapel, however, has never been identified, nor is a possible location known. Based on the written sources, it has been suggested that the chapel building was converted by Baybars into a mosque soon after he took the castle.[6] Several Islamic sources report on the transformation of a place dedicated to St George, into a *mihrāb*. The mosque, founded by Baybars after conquering the castle, could have therefore replaced the Frankish chapel dedicated to St George, one of the patron saints of the Templars and protector of the Order.[7] The existence of a castle chapel is implied to some extent in the treatise, in which the author contends that, following the construction of the castle, it is now possible to preach in Safed and its territory:

> *Illa vero utilitas non est obmittenda qua supergreditur universas, quod modo potest predicari libere in omnibus predictis locis fides domini nostri Iesu Christi et destrui ac reprobari publice in sermonibus blasphemia Machometi, quod non poterat fieri ante constructionem Saphet*.[8]

Accounts from the seventeenth and eighteenth centuries report on a polygonal hall at the base of the round tower where the mosque had stood and which may have comprised the foundation of the Templar chapel. Although it is difficult to rationalize the introduction of a cistern into the base of the building, it is not impossible to assume that the layout of the Templar building foundations determined the round plan of the Mamluk tower.[9]

---

[3] Dov Levitte and Amihai Sneh, *The Geological Map of Israel, 1:50,000*. Sheet 2-III, Zefat. In: Rosensaft, M., Vectorial format of the 1:50,000 *Geological Map of Israel*. Israel Geological Survey (Jerusalem, 2013, Partly revised, 2016).

[4] D. H. K. Amiran, E. Arieh and T. Turcotte, "Earthquakes in Israel and Adjacent Areas: Macroseismic Observations Since 100 B.C.E," *Israel Exploration Journal* 44/3–4 (1994), 260–305.

[5] Hervé Barbé, with contribution by Nuha Agha, Yael Gorin-Rosen, Nathalya Katsnelson, Robert Kool, Matt Phelps and Edan J. Stern, "Le château de Safed et son territoire depuis l'époque des croisades. Constructions, organisation, fonctions et postérité d'une fortification franque en Terre sainte (XIIe – XIXe siècle)," in *Mémoires et travaux du Centre de recherche français à Jérusalem 12* (Éditions de Boccard, fotrhcoming 2022).

[6] Denys Pringle, *The Churches of the Latin Kingdom of Jerusalem, A Corpus*, 4 vols (Cambridge, 1998), vol. 2, 206–209.

[7] Ibn al-Furât, trans. Lyons 2: 105. See also Ibn Shaddâd, *Târîkh*, 353; Ibn Abd al-Zâhir, 287 and al-'Uthmânî, ed. Lewis, 487–488; Maqrizi, trans. Quatremère I, 332: 30–31; Badr ad-Din al-Ainï, ed. *RHC*, 223.

[8] *De constructione Castri Saphet*, lines 264–266.

Excavation of the cemetery, Safed

A salvage excavation conducted in the area prior to planning a new courthouse in Safed (February 2020), revealed more than 120 tombs containing over 300 individuals. The site is located c. 200 m south-east of the Ottoman Serai, built by Daher al-'Umar, and about 1 km south-west of the Templar castle (Figure II.14.1).[10] The cemetery was in use during the fourteenth and fifteenth centuries, the period of most of the archaeological finds, and continued to be in use until the mid-twentieth century, with the end of the British Mandate period in Palestine.[11] Archaeological finds from the site include plain jewellery, a small number of pottery sherds characteristic of the Late Ottoman Period, and around 90 coins, also dated to the same period. The Frankish imported bowls, as well as Frankish and earlier coins also found there, might not be connected to any of the burials. The epitaph on the tombstone discussed here is the only epitaph found during the excavation (Figure II.14.2).

Epitaph of Muṣṭafā Saʿaīd Barghūth

The tombstone (limestone, L. 50 cm; W. 30 cm; H. 37 cm, Figure II.14.3) was found *in situ* on a grave in the south wing of the cemetery. Five lines separated by thin bands commemorate a male individual named Muṣṭafā S'aid Barghut, but a significant part of the inscription is missing. Its reading, by Moshe Sharon and 'Issa Baidun, is limited due to lacunae on the face of the artefact. The interpretation of some of the words of which only part of the letters has survived is also uncertain.[12] The tombstone was made from a Frankish rib vault fragment that would normally be positioned on its spine, with the upper part of the rib forming the framework for the crossed rib-vault.

* While the text appears to be poetic prose, the translation provided here is merely a literal one, conveying a visual image of the meaning.

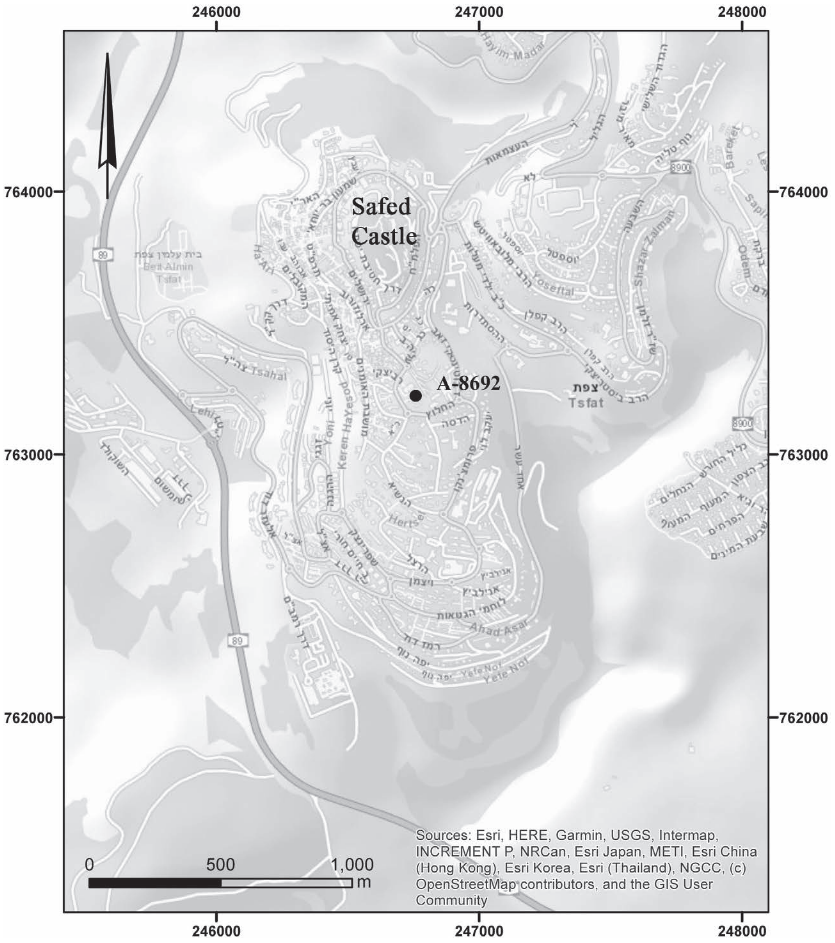
---

[9] O. Dapper, *Naukeurige Beschrijving van gantsch Syrie, en Palestijn, of Heilige Lant* (Amsterdam, 1677), 131–132. For a hypothetical reconstruction of that tower that was likely encapsulating the castle chapel see Denys Pringle, *The Churches of the Crusader Kingdom of Jerusalem*, vol. 2:51 (Cambridge, 1998).

[10] E. W. G. Masterman, "Safed," *Palestine Exploration Quarterly* 46/4 (1914), 169–179.

[11] For Ottoman period burials see Virginia H. Aksan and Daniel Goffman, eds., *The Early Modern Ottomans: Remapping the Empire* (Cambridge University Press, 2007), 233–255.

[12] We are grateful to Professor Moshe Sharon for his efforts to read the inscription, and to 'Issa Baidun for his contribution to this reading.


246000
247000
248000
764000
763000
762000
Safed Castle
A-8692
צפת
Tsfat
בית עלמין צפת
Beit Almin Tsfat
89
8900
0
500
1,000
m

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

Figure II.14.1 Location map, Safed Castle and location of the Ottoman cemetery. © IAA

The template

This is the only rib fragment from the area of Safed to have been retrieved outside the castle perimeter, in a controlled excavation. Only a very small part of the Frankish castle has been excavated to date, but the finds in the exposed halls that were cleared also contained remains of rib vaults reflecting the common plain template: rectangular ribs with concave edges.

The discussed embellished rib fragment features a hollowed chamfered base, a straight arm and a chamfer rising to a torus of Ø 5.25 cm, and beak and scotia crowned with round moulding with no pointed ridge. The fragment's height (37 cm) equals one-sixth of a Cypriot canna, possibly the measurement unit used for

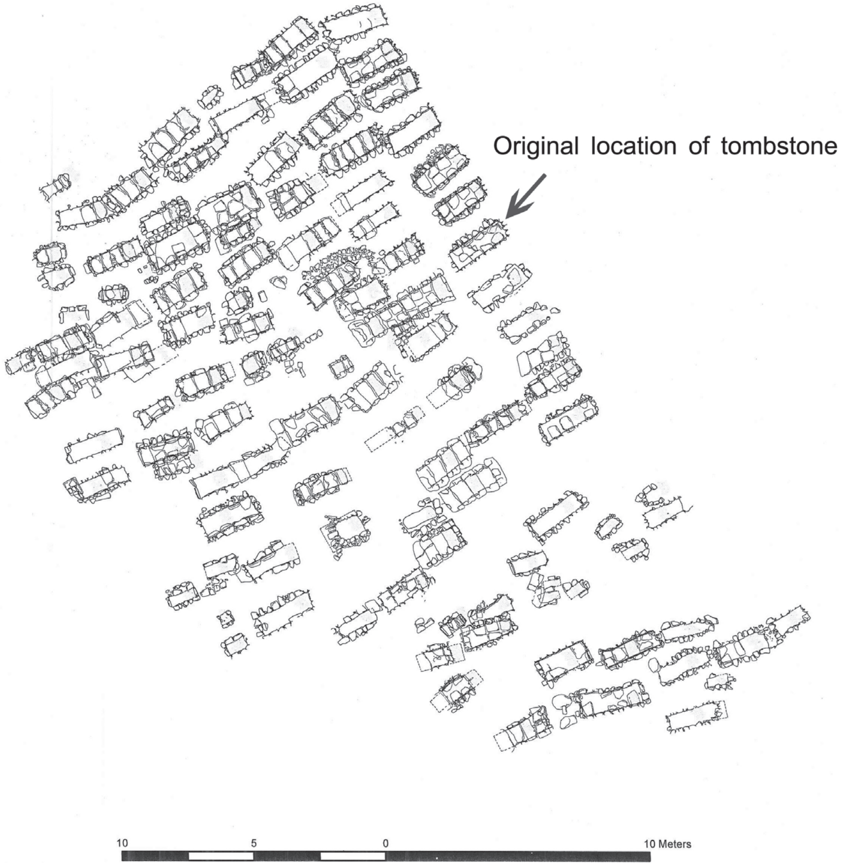


Figure II.14.2 Ottoman cemetery and the location of the tombstone. © IAA

the castle's construction. Divided by six, this measurement thus indicates the height of the rib fragment. The text describing the construction of Safed Castle includes details of specific measurements, probably in Cypriot cannas: 1 canna=2.2 m. The measurements refer to ditches (7×6 cannas); internal walls (up to 20 cannas); and seven towers (22 cannas each).[13] Hervé Barbé, who excavated the castle between

---

[13] Deschamps suggested the Provencal Canna was used: P. Deschamps, *Les Châteaux des Croisés en Terre Sainte 1. Le Crac des Chevaliers. Étude historique et archéologique*. Bibliothèque Archéologique et Historique 19 (Paris, 1934), 101, n.1; V. Mortet et P. Deschamps, *Recueil de textes relatifs à l'Histoire de l'architecture et à la condition des architectes en France au moyen âge* (Paris, 1929, 1995), 1929: II 263, n.1. Canna of 2.2 m was suggested by J. Prawer, *Histoire du Royaume latin de Jérusalem*, trans. G. Nahon. CNRS éditions (Paris, 1st ed. 1969, 2nd ed. 2001) II, 294, n.10. This view was accepted by Huygens R. B. C. *De constructione castri Saphet*, 26–27, and adopted by Kennedy for the English translation. For the various measurement units see J.

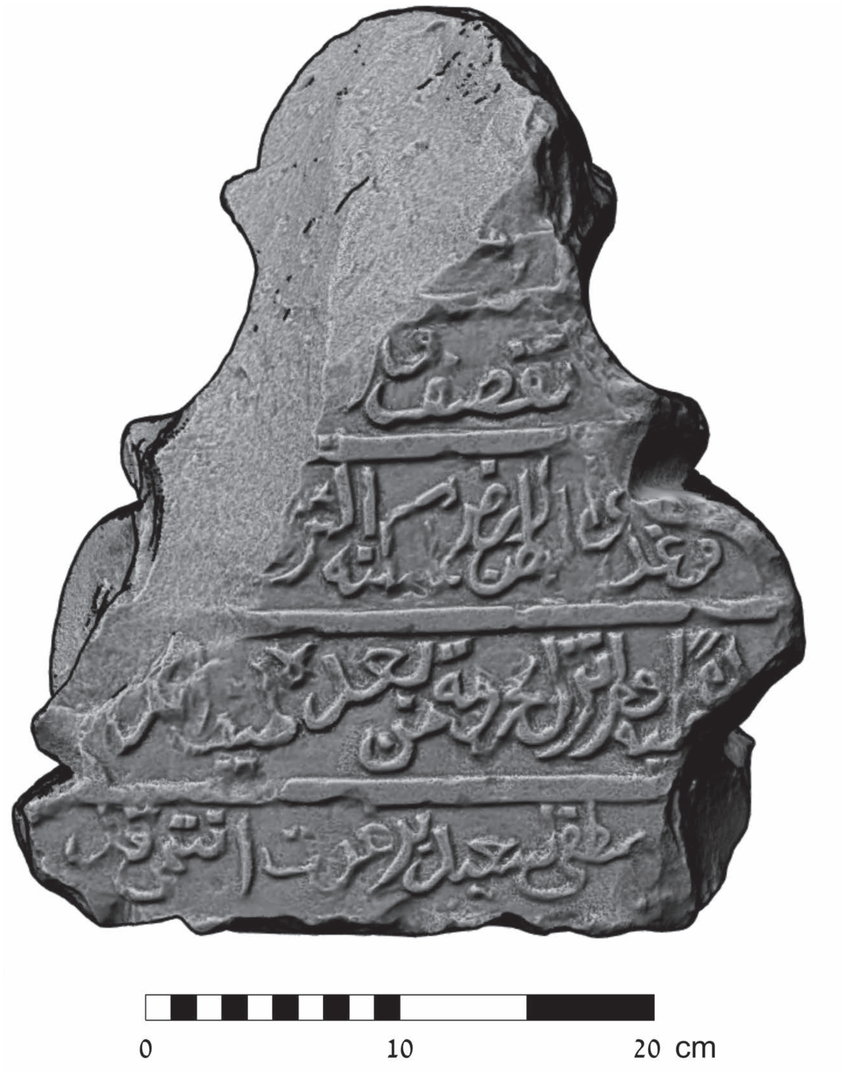


Figure II.14.3 Laser scan of the inscription. © IAA

2001 and 2003, indeed noted that the south-west curtain wall of the second enclosure was 3.2 m thick. The thirteenth-century sources designated a width of 1.5 cannas (3.3 m) for the top of the inner rampart.[14]

Richard, *Chypre sous les Lusignan. Documents chypriotes des archives du Vatican* (*XIVe et XVe siècles*) (Paris, 1962), 20.

[14] *De constructione castri Saphet, line 175: "que in antemuralibus et scamis, que habent in altitudine x cannas et in circuitu CCCLXXV; que les murs intérieurs ont . . . une canne et demie*

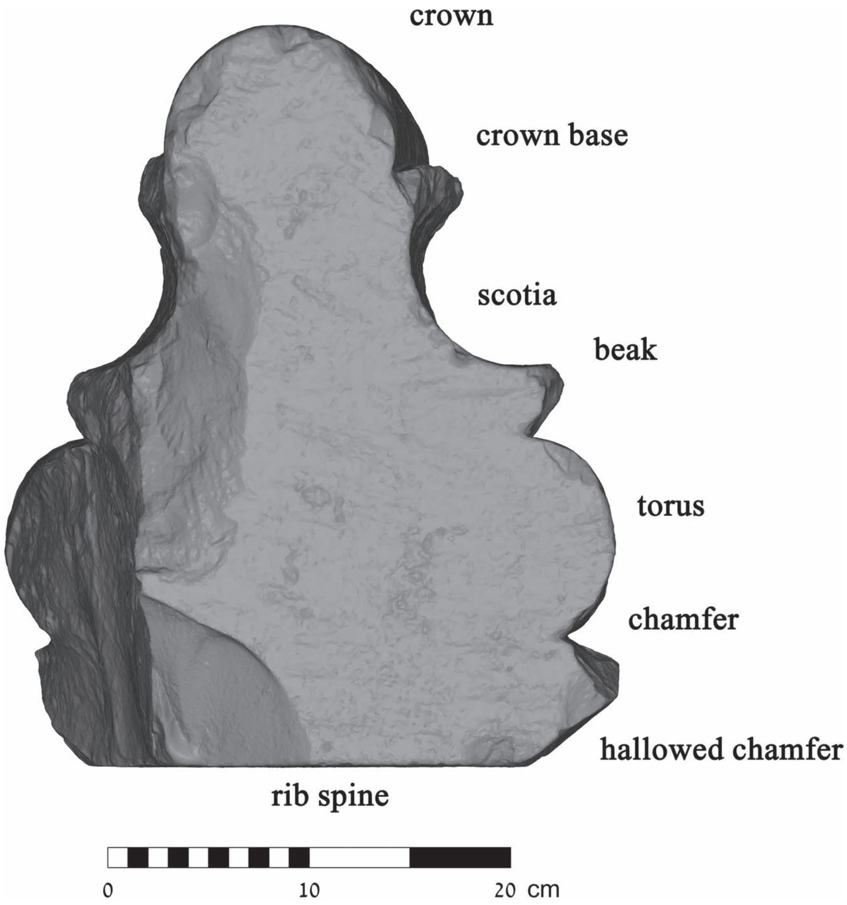


Figure II.14.4 Rib vault fragment, components. © IAA

The rib template from Safed is exceptional in its chamfered base. Of 19 other rib templates documented at various sites of the Latin Kingdom of Jerusalem, it is the only piece featuring a hollowed chamfer at the point where the rib meets the web of the vaulting (Figure II.14.4). The fragment still retains tooling marks indicating that several tools were used for the dressing of its original use as a rib vault. The base preserves marks of an oblique bretture, which are visible also on the chamfered faces. A scraper was probably used on the torus.

---

d'épaisseur en haut du mur." For the excavation of this part of the castle see Hervé Barbé and Emanuel Damati. 2005. Zefat. ESI 117.

Rib vaults

Ribs mark the intersecting points of a groin vault, concealing the arris of the webbing. A ribbed vault is one of the most recognisable features of Gothic architecture, particularly in France, its common use is attributed to its financial value and ease of construction as much as to its splendour and aesthetics.[15] Tens of rib-vault fragments in various stages of preservation have been found throughout the Latin Kingdom of Jerusalem, particularly outside the city of Jerusalem, where a notable example is that of the Frankish choir in the Church of the Holy Sepulchre. This is probably the earliest rib vault to have been found in the kingdom. Although Gothic architecture is broadly regarded to have been a French domain, the first use of a rib vault is dated to the first decade of the twelfth century in England at Durham Cathedral (begun in 1093), and in Italy at Rivolta d'Adda (1120). In France, Saint-Denis marks the earliest use of rib vaults for the westernmost bays of the narthex, which were completed in 1140, thus constituting the oldest part of Abbot Suger's rebuilding and of the choir that was built subsequently.[16] Although considered a "constructive means and not an artistic end," much like pointed arches and flying buttresses, rib-vault templates were highly embellished elements.[17] Particular attention was invested in the keystone (*clavis*) placed at the apex of the vault and used to lock the ribs together. Keystones featured Christian iconography as well as vegetal and figural sculptures, and often presented multiple designs in the same building.[18] The rib template has little effect on the content of the keystone, and the only link between them are the projected ends of the keystone that serve as the first rib vertebra, from which the following ribs continue to where they rest on a tas-de-charge or impost. Gervase of Canterbury (c. 1141–c. 1210), who entered monastic life during Thomas Becket's time as archbishop (1162 – until his martyrdom on 29 December 1170), left detailed accounts of his life at the Church of Christ, Canterbury. Gervase particularly focused on some of the most dramatic events that had occurred during his life as a monk: the Becket's martyrdom; the Great Fire of Canterbury in 1174; and, most importantly for the present discussion, his account of the following years when rebuilding the cathedral was underway. Gervase described the new emerging forms when he wrote of the rebuilding of the choir, emphasising the superiority in every possible aspect of the modern works compared to the earlier structure, from the quality of the masonry works (*Ibi arcus et caetera omnia plana, utpote sculpta secure et non scisello, hic in omnibus fere*

---

[15] John Fitchen, *The Construction of Gothic Cathedrals: A Study of Medieval Vault Erection* (Cambridge, 1961), 64, 69.

[16] Jean Bony, *French Gothic Architecture of the Twelfth and Thirteenth Centuries* (Los Angeles, University of California Press, 1949), 89–90.

[17] For the quote see Stephen Murray, *Plotting Gothic* (Chicago: Chicago University Press, 2014), 170.

[18] See, for example, Nurith Kenaan-Kedar, "The Architectural Sculpture of Montfort Castle Revisited," in *Montfort*, ed. Adrian J. Boas (Brill, 2017).

sculptura idonea), to the materials (*ibi columpna nulla marmorea, hic innumerae, . . . lapide et tofo*), sculptural programme (*In capitellis veteribus opus erat planum, in novis sculptura subtilis*) and the new rib vaults: *Ibi in circuitu extra chorum fornices planea, hic arenatae sunt et clavatae*.[19]

In the Latin Kingdom of Jerusalem fragments of four major types of rib remains have been identified and recorded at several sites. The list in Table 14.1, in morphological order, represents several variants of templates that were frequently combined to form a more complex model. This was apparently done for aesthetic

Table 14.1 Typology of rib vaults from the Latin Kingdom of Jerusalem

1. Rectangular rib	*2. Ornate rib*	*3. Two rolls rectangular*
Chamfered	*Crowned, Flat*	*Short span*
• Acre (**a**, refectory), *in situ* • Montfort (**a**, building in the valley), *in situ*; (**b**, west hall), *in situ* • ‘Atlit (**a**, inner passage, east hall), *in situ* • Sebaste (**a**, church aisle), *in situ*	• Acre (**e**, church), *ex situ* • Acre (**f**, church), *ex situ* • Acre (**g**), *ex situ* Acre (**h**),[20] *ex situ*	• Caesarea (**r**) *ex situ*
Concave 2 edges	**Triangular**	**Long span**
• Caesarea (**c**, valley), *ex situ*	• Acre (**i**), *ex situ*	• Belvoir (**s**), *ex situ*
Concave 3 edges	**Rounded**	
• Caesarea (**d**, north gate), *in situ* • Caesarea (**d**) *ex situ*	• Acre (**o**, church), *ex situ* • Acre (**e**, church), *ex situ* • Tyre (**q**, cathedral), *ex situ*	
	Pointed/Almond shape	
	• Belvoir (**k**, probably chapel), *ex situ* • Montfort (**h**, upper floor), *ex situ* ‘Atlit (**l**, chapel), *ex situ*[21] • Acre (**m**, chapel), *ex situ* • Arsur (**n**, chapel), *ex situ*	

---

[19] On the burning and repair to the cathedral see Jochen Schröder, Gervasius von Canterbury, Richard von Saint-Victor und die Methodik der Bauerfassung im 12. Jahrhundert (2 vols, Cologne, 2000). Vol. 2, 21–146, 326–370. For the terms describing the components of the vaults see William Stubbs, "The Historical Works of Gervase of Canterbury": Vol. 1, 27. New edition: The Historical Works of Gervase of Canterbury, Cambridge Library Collection – Rolls. Volume 73 of Rerum Britannicarum medii aevi scriptores. William Stubbs (ed.), Cambridge University Press, 2012.

[20] The ribs and a keystone are currently on permanent display at the Hospitaller Compound, Acre. They were found in the collapse from the upper floor of the north hall.

[21] See Camille Enlart, *Les monuments des croisés dans le Royaume de Jérusalem: Architecture religieuse et civile*, 2 vols. 2 albums (Paris, 1925–1928). Album I, plate 76.

reasons rather than for any construction purpose, as various types of ribs could be used together in different parts of the same complex. Multiple models of rib vaulting are often found in urban contexts, where construction spanned long periods of time, various patrons were involved and the typology consequently varied. Numerous variations in a single site are less frequently found in castles, where the construction process was often limited to a single short campaign, excluding those cases in which different phases resulted from several occupation periods or several campaigns. The architectural vocabulary of ʻAtlit Castle, for example, features only a small number of different rib-vault templates. A similar rib module was used for most of the halls in the castle. The chamfered rectangular rib was used in all the western and north-western halls, with the exception of a different module for the chapel, and probably also for one of the large halls on the southern range of the castle. Moreover, the masons used a similar corbel type for all the halls along the western range of the castle. The corbels appear in different sizes and greatly resemble those found in churches in Nicosia, although they seem to lack any ornamentation other than a rounded ending.

Multiple models attest to a deep knowledge of construction methods and a broad architectural vocabulary, as well as to the work of several artisan groups. At Montfort Castle, where several construction phases have been identified, the masons used six different templates for the rib vaulting. The earliest systems of rib vaulting did not feature complex keystones. The earliest example, as noted earlier, was in the transept of the Church of the Holy Sepulchre, where the simple cylindrical ribs intersect directly, with no keystone to mark the meeting point. Keystone designs from the West included figural and numerous floral motives and a more cohesive representation of topics associated with the Christian faith, such as scrolls of vines and grapes, *Agnus Dei*, and armorial bosses. In the Latin Kingdom, however, all the extant examples present keystones decorated with vegetal motives except for one example from Acre recorded by Zehava Jacoby, and unfortunately lost since then. Although lost, this artefact was probably one of the most embellished keystones ever found in the Latin Kingdom of Jerusalem. The crown was hollowed to enable a chandelier to be suspended and is decorated with what seems to have been a fine floral wreath. Four figures, possibly knights, were sculpted between the four rib ends. The figures were seemingly identical on all sides, and presented with their feet exposed below a gown and a mantle on their shoulders.[22]

The following typology of rib vaults, based on rib templates, comprise three major types (Figure II.14.5):

---

[22] This element was lost after the 1980s, probably after it was removed from the municipal museum at Acre. It was recorded by Zehava Jacoby and photographed by Ze'ev Radovan. The original photos are preserved at the library of the University of Haifa and available online through the Zehava Jacoby's collection: Crusader sculpture in the land of Israel. Sandstone, D. 56 cm; L. of ogives, 15 cm, Akko Municipal Museum.

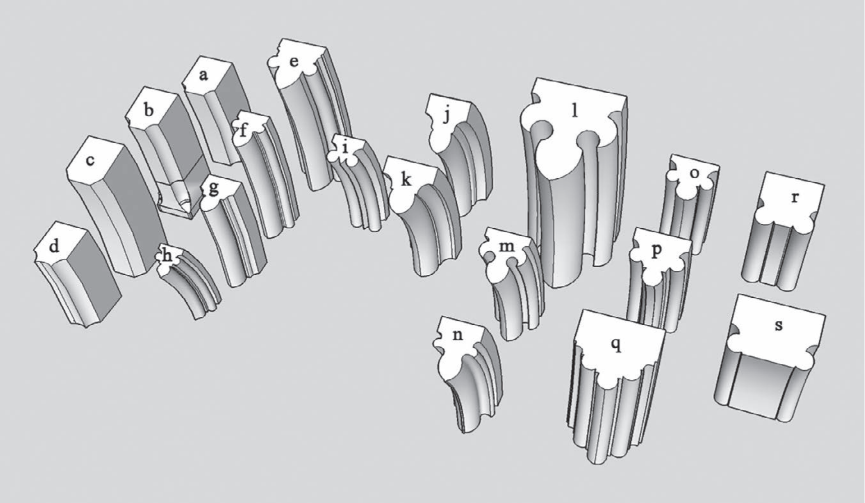


Figure II.14.5 Diagram of the various types of rib-vault templates, mostly from the Latin Kingdom of Jerusalem. © IAA

Type 1: ***rectangular rib***

The most prevalent type, subdivided into three templates:

1 rib chamfered on two edges.
2 rib with two concave edges and a straight head.
3 rib with three concave edges.

Type 2: ***ornate rib***

A rib with a pointed, almond-shaped crown.

Type 3: ***a two-roll rectangular rib***

A rib with two cylindrical rolls at the edges and a flat ridge.

The only model completely absent from this typology is the early template, consisting in a cylindrical rib, represented, for example, by the Crusader choir in the Church of the Holy Sepulchre.

Of *Type 1*, the rectangular rib, there are numerous fragments of a concave-on-two-edges template and a concave-on-three-edges one.

Discussion

Architectural analysis

The remains of Safed Castle were studied and analysed by Hervé Barbé, who also noted the differences between Frankish work and the Mamluk operations.[23] The Frankish sculptures found include a bearded male head, possibly an image of an apostle.[24] Frankish architectural elements include a number of vaulting systems comprising typical thirteenth-century corbels, tas-de-charge, ribs and a keystone. In the Latin East, this period was particularly influenced by the architectural style of the Ile-de-France, resulting in numerous examples that resonate original French works. A notable example of this are the vaults of mid-thirteenth-century Caesarea constructed during Louis IX's rebuilding campaign.[25] Two different rib-vaulted elements were identified in two different halls. One element consists in a corbel and a few rib vertebrae located in a rectangular hall (c. 5.5 m x 5.5 m) preserved in the western area of the castle; while an element on the south-western corner of this hall features an engaged corbel, decorated with foliated motives and four rib vertebrae preserved *in situ*. This hall, one in a series, clearly belongs to the many workshops for all the necessities mentioned in the construction account, which does not include mention of a chapel.

There may have been various reasons for the lack of any chapel details, with the most obvious one being that a chapel had not yet been constructed at the time of the bishop's visit, although this seems highly unlikely. Alternatively, one may suggest a similar reason to that which had left us with uncertainty regarding another Templar castle chapel and pertaining to the text describing the construction of 'Atlit Castle.[26] Oliver of Paderborn, the author of that text, mentioned an *oratory* among the various offices of the castle, and although no specifications are given, it is clear that the building was part of the initial scheme of the castle. Moreover, chapels are completely absent from the various descriptions provided by contemporaneous pilgrims and visitors to both castles. We may ask why this is so. We may also examine what we know of Templar chapels in their major castles in the East, such as that of the Templar headquarters at Acre. Though no archaeological remains of the Templar complex have ever been researched, the headquarters' chapel was recorded on a map by Matthew Paris as a round building.[27] This depiction, arguably a realistic one, reflects a perception of the Templars as producers of round churches resembling the dome of the Holy Sepulchre, similar to their shrines. One may argue as to the likelihood that Matthew Paris, who had not visited the East, had illustrated the Templar church of Acre after its iconic London example, thus reflecting an associative awareness of the Templar round churches. This illustration, if so, reflects the fact that this is how the chapels of the Order were perceived by Westerners. Other than the Templars, no-one ever built such a vast-scale round church in the Holy Land.[28] Whether because of their unique ties with the Templum Domini and the Holy Sepulchre, or for any other reason, the only churches that were considered by their contemporaneous visitors or viewers as resembling the most sacred shrines in Jerusalem, were those built by this Order. Why were no references made to this in the treatises or texts? Possibly the reason for their lack lies in the fact that the Templars were commonly condemned as responsible, often together with the Order of the Hospitallers, not only for the loss of Jerusalem but also for their lack of ability or desire to regain it from the Saracens.[29] A reference to a Templar chapel that replicates or even resembles the Holy Sepulchre would have fuelled the argumentation against the Order: that they had abandoned the possibility of regaining Jerusalem! Moreover, it was perfectly acceptable, even desirable, to build replicas of the Holy Sepulchre in the West, where such construction illustrated the aims and destination of all Crusaders and pilgrims. It was something else, however, to build a copy of the most sacred building to Christianity just a few miles away from the original, underscoring its loss and, moreover, conceding to never securing its return to Christian hands. As a fund-raising treatise or a propaganda manifest aimed at glorification of the bishop and the Templars, such references would have achieved the opposite objective.

---

[23] Hervé Barbé, ibid.

[24] Hervé Barbé and Emanuel Damati, "Zefat," *Hadashot Arkheologiyot* 117 (2005).

[25] Vardit R. Shotten-Hallel, Jean Mesqui and Uzi 'Ad, "Three Main Towers of Medieval Caesarea: Architecture, Their Role and Function," in *Poliorcetics, The Art of Siege and Warfare from Antiquities to the Middle Ages*, eds. Rabei J. Khamisy and Michael Eisenberg (Oxbow, 2020), 189–212, at 202–204.

[26] For the architectural plan of 'Atlit Castle chapel see Vardit R. Shotten-Hallel. 2022, online 2021. "An Image of the Holy City in the Holy Land," *Material Religion* 19.

Regarding the question of why we assume here that the rib fragment from Safed came from the chapel, it should be noted that this rib fragment represents a unique template, thus far unknown from elsewhere in the Kingdom of Jerusalem. The base of the rib is chamfered, differing from the templates documented in various castle churches and churches, including Acre, Arsur, 'Atlit, Belvoir, Caesarea, Montfort, Tyre and Sebaste.

It seems that this type of complex rib was used in one of the most important buildings, which may have been a chapter house, a palatial hall or, most likely, the castle chapel. It is important to note that for its typology of castle architectural element, this particular element should not be regarded as a random element that could have originated in any Frankish building. This typology and particularly its quality are indicators of highly profound architectural element originating in a most highly lavish and important building. As such, the epitaph featuring on the reused rib-vault fragment is probably the only evidence of the existence of a chapel at Safed Castle.

---

[27] Matthew Paris, BL Royal MS 14 C VII, ff. 4v-5r. Cf. Pietro Vesconte, BL, Add. MS 27376, ff.189v-190.

[28] The Church of the Ascension or the Saviour in the Abbey of the Mount of Olives was an octagonal structure of doubted Byzantine plan and was a small-scale chapel. Pringle, *Churches* III, 72–84.

[29] Jonathan Riley-Smith, "Knights of St. John in Jerusalem and Cyprus," *Palgrave* 8 (2015), 201–202.

15 Belvoir castle revisited

History and development

Rabei G. Khamisy and Moshe Bram

Introduction

Belvoir castle, among the best-preserved Frankish castles in the Levant, has been thoroughly researched and documented since the second half of the nineteenth century.[1] It is a castle with concentric defences, built in a unique style, which contains two *quadriburgia* one inside the other. As a castle of this style, Belvoir is the earliest one known to us in the Levant where its two *quadriburgia* were built in one phase. Although Belvoir proved that it had a great resistance against attacks, the Franks never built another one in the same style in their areas along the eastern Mediterranean after 1187, at least according to our present knowledge. However, existing castles were strengthened and expanded during the two decades prior to the Battle of Ḥaṭṭīn, and at least one of them, Darum (Dayr al-Balaḥ), seems likely to have been shaped in a very similar way to Belvoir.[2] Later on, a similar but much smaller castle was built in Saranda Kolones in Cyprus.[3] The current study, based on critical analysis of the historical records and the architecture still standing, aims to date the castle's main phases of construction and to examine the planning of one of the castle's important military features: the entrances, including the gates. Our study will attempt, inter alia, to understand the ideas that stood behind the planning of the entrances. It will also deal with the importance of the site to Frankish and Muslim eyes. In order to undertake this study, we conducted a survey in the castle, in which we examined all the relevant architectural elements. It should be noted that the general design of the castle has already been studied, and we will deal with it only where necessary or when we present new information and suggestions. We were able to identify a very important phase of building, which greatly affects our understanding of the function and planning of the castle.

---

[1] See references until 1997 in Denys Pringle, *Secular Buildings in the Crusader Kingdom of Jerusalem* (Cambridge, 1997), 33. Other studies will be mentioned later.

[2] Thomas Edward Lawrence, *Crusader Castles*, ed. and notes Denys Pringle (Oxford, 1990), xxxv–xxxvi.

[3] Adrian Boas, *Crusader Archaeology*, 2nd ed (London and New York, 2017), 105–108.

DOI: 10.4324/9781003146926-16

Historical background

Belvoir castle is located on the eastern edge of Issachar Heights, 312 m above sea level, about 500 m above the Jordan valley and 14 km south of the Sea of Galilee (Figure II.15.1). The land on which the castle stands falls down steeply to the east towards the Jordan Valley, but it is flat on the other three sides.

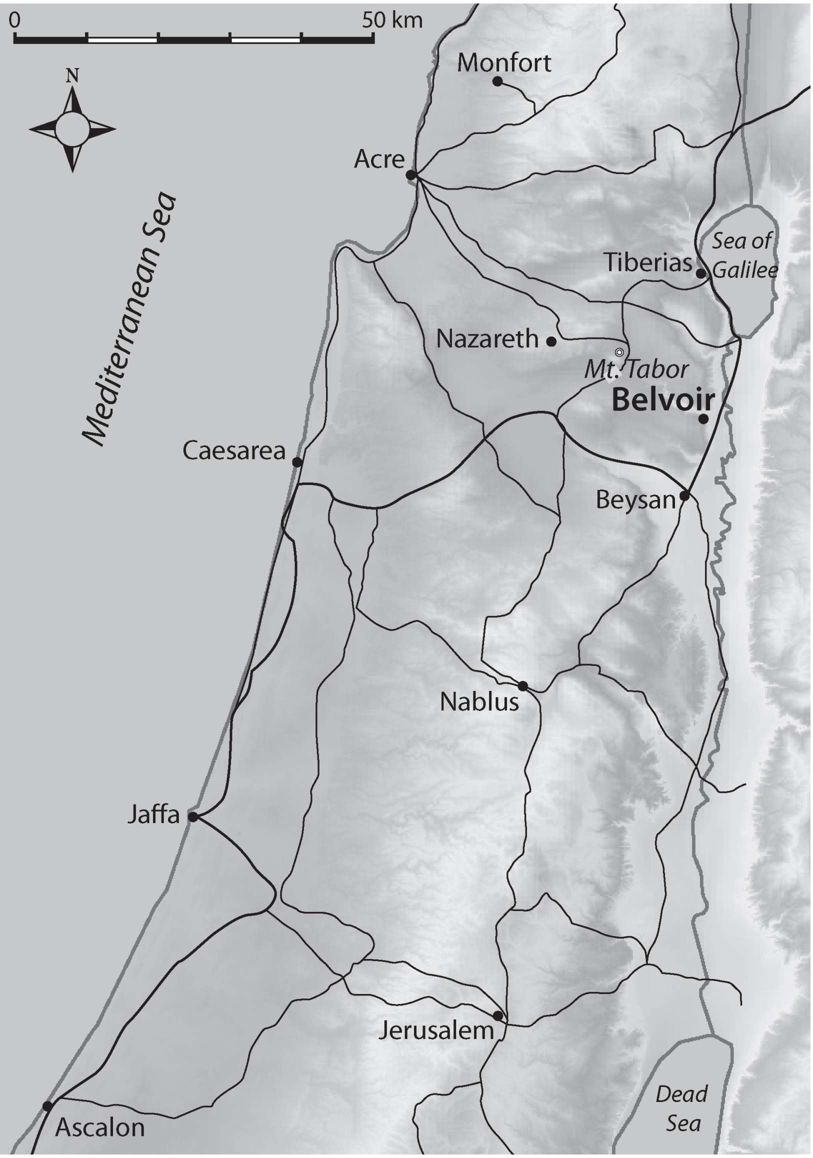

0
50 km
N
Mediterranean Sea
Monfort
Acre
Sea of Galilee
Tiberias
Nazareth
Mt. Tabor
Belvoir
Caesarea
Beysan
Nablus
Jaffa
Jerusalem
Dead Sea
Ascalon

Figure II.15.1 Map with the location of Belvoir (drawing by Svetlana Matskevich). © R. G. Khamisy

In a document dated 1165, the village (*casale*) of Cocket appeared as forming the northern border of two villages that belonged to the Church of the Holy Sepulchre.[4] In fact, the two villages were granted to the church by William of Bures, lord of Galilee, in 1132, but the village of Cocket does not appear in the original confirmation.[5] This indeed is one of the main differences between the texts of the original grant of 1132 and its copy, when it was confirmed in 1165. Perhaps in 1165 the writer aimed to give more details about the boundaries, but this leaves us in the dark about whether the village of Cocket existed in 1132 or not. In April 1168 the sale of Belvoir castle by Ivo Velos to the Hospitaller Order was confirmed by Walter of Tiberias, Lord of Galilee, who confirmed the aforementioned two villages of the church in 1165.[6] The document stated that a castle called *Coquet*, popularly known as *Belvear*, was sold for 1,400 bezants. The same confirmation contained the sale of three villages, one of them costing 1,000 bezants and the other two together 1,300 bezants.[7] Several important things can be derived from this text; the first is that the original name of the place was *Coquet*,[8] and only later was it called *Belvear* (Belvoir) by the Franks; the second is that it belonged originally to Ivo Velos, a knight under the lordship of Galilee; and the third is that the fortification was quite small, perhaps not more than a tower. This can be explained by the sum paid for it, which was a bit higher than the cost of the villages in the same document. In fact, it is highly unlikely that a knight would own a large castle. This hypothesis can be strengthened by the fact that the same place, Cocket, was mentioned as a village three years earlier in 1165. If the documents have indeed used the correct terms to describe the place, this would mean that the tower (Castrum) was built by Ivo between 1165 and 1168. In fact, the recent excavations at the site suggest that the Hospitaller castle was built on the location of the village, which was systematically levelled by the Hospitaller knights.[9] It should be noted that demolishing a village in order to build a castle in its place seems a very strange and unusual act by the Hospitallers. Perhaps the remains unearthed in the excavations are no more than those of a small complex of buildings, possibly with the tower (Castrum) mentioned in 1168, and that the village should be located somewhere nearby or, alternatively, the village was so small that the Hospittalers allowed themselves to replace it with a castle and move its inhabitants to another place.

---

[4] Bresc-Bautier, ed., “Le Cartulaire du Chapitre du Saint-Sépulcre de Jérusalem,” in *Documents relatifs à l’histoire des croisades* 1946-, vol. XV (Paris, 1984), 267–268, no. 136; *Revised Regesta Regni Hierosolymitani Database (RRRH)* (online), no. 752.

[5] Hans Eberhard Mayer, *Die Urkunden der Lateinischen Könige von Jerusalem*, 4 vols (Hannover, 2010), 1: 296–298, no. 128; Reinhold Röhricht, ed., *Regesta Regni Hierosolymitani* (RRH) (Innsbruck, 1893), 36, no. 142; *RRRH*, no. 307.

[6] For Ivo and Walter see, for example, Martin Rheinheimer, *Das Kreuzfahrerfürstentum Galiläa* (Frankfurt am Main, Bern, New York and Paris: Peter Lang, 1990), 204, 206, 268–269. It should be noted that Ivo appeared as a witness in the 1165 confirmation.

[7] J. Delaville Le Roulx, ed., *Cartulaire general de l’Ordre des Hospitaliers de St.-Jean de Jerusalem (1100–1310) (Cart. Hosp.)*, 4 vols. (Paris, 1894–1906), I:271–272, no. 398; RRH., 116–117, no. 448. *RRRH* no. 797.

[8] Also called Kawkab in Arabic. There are two other places with similar names in both Arabic and Latin (Kawkab and Coquet) in the region of Acre, but we will not discuss them here. It seems likely that every place that was called Kawkab in Arabic, was recorded by the Franks as Coquet or something similar (Coquetum, Cochetum, etc.). see also a note by Benvenisti (Meron Benvenisti, “Bovaria-Babriyya: A Frankish Residue on the Map of Palestine,” in *Outremer, Studies in the History of the Crusader Kingdom of Jerusalem*, eds. Benjamin Z. Kedar, Hans Eberhard Mayer and R. C. Smail (Jerusalem, 1982), 130–152.

Almost four years later, in 1172, Theoderic said "*In its vicinity the Hospitallers have built a very strong and spacious castle on a high mountain to protect the land this side of the Jordan against the attacks of Nūr al-Dīn, the tyrant of Aleppo*".[10] It seems likely that in four years the Hospitallers had managed to build the first massive phase, which was very similar to the castle in its current shape. However, they later made extensive changes on the eastern side, where they added a complicated entrance (see later in this chapter). There are some other changes in the buildings, but it is difficult to date them accurately in the short period of the castle's existance. In 1172, the castle seems to have been very strong and had been built mainly to protect the borders against the attacks of Nūr al-Dīn Zingī. Belvoir surrendered to Saladin on 5 January 1189,[11] almost 18 months after the Battle of Ḥaṭṭīn. This is clear evidence that Belvoir was among the most fortified and well-defended castles of the time.[12] Saladin wanted to grant it to "some people" whose names are not mentioned, but they refused to take it, so Emir Qaymāz al-Nijmī took it without wishing to do so.[13] This suggests that the castle did not interest the Muslims and their Emirs did not want to control it, although Saladin wished to do so, and perhaps carried out some restoration works. Bahāʾ al-Dīn Ibn Shaddād stated that Saladin, on his way from Jerusalem to Damascus in 1192 went to Kawkab

---

[9] Simon Dorso, "Change or Continuity? Rural Settlement in Eastern Galilee at the Time of the Crusades," in *Crusading and Archaeology*, eds. Vardit R. Shotten-Hallel and Rosie Weetch, Subsidia of Crusades 14 (London and New York, 2021), 263–283, at p. 277.

[10] Theoderic: A Little Book of the Holy Places, in D. Pringle (introduction, translation and notes), *Corpvs Christianorvm in Translation: Saewulf, John of Würzburg, Theoderic, Three Pilgrimages to the Holy Land* (Brepols Publishers n.v., Turnhout, Belgium, 2022), 253; Theoderic (Theoderich), *Libellus de locis sanctis*, ed. R. B. C. Huygens, *Corpus Christianorum, Continuatio Mediaeualis*, vol. 139 (Turnholt, 1976), 142–197, at p. 189.

[11] Bahāʾ al-Dīn Ibn Shaddād, *al-Nawādir al-sulṭāniyya wa'l maḥāsin al-yūsufiyya: sīrat Ṣalāḥ al-Dīn*, ed. Jamāl al-Dīn al-Shayyāl (Cairo, 1994), 153; Donald S. Richards, *The Rare and Excellent History of Saladin or al-Nawādir al-sulṭāniyya wa'l maḥāsin al-yūsufiyya by Bhāʾ al-Dīn Ibn Shaddād*, Crusader Texts in Translation 7 (Aldershot, 2001), 89; ʿImād al-Dīn al-Iṣfahānī, *al-Fatḥ al-qussī fī al-fatḥ al-qudsī*, in *al-Mawsūʿa al-shāmiyya fī taʾrīkh al-ḥurūb al-ṣalībiyya*, ed. Suhayl Zakkār, 40 vols. (Damascus, 1995), 13: 5963–5964 (182–183); ʿImād al-Dīn al-Iṣfahānī, *Conquête de la Syrie et de la Palestine par Saladin*, Fr. trans. Henri Massé, in *Documents relatifs à l'histoire des croisades* (*DRHC*), vol. x (Paris, 1972), 152–153.

[12] The only castles in the Kingdom of Jerusalem that did not surrender to Saladin and which held for more than one year under siege were Belvoir, Safed and Beaufort and the city of Tyre.

[13] Al-Iṣfahāni, *al-Fatḥ al-qussī*, 5964 (183). The names of the other people are not mentioned.

(Belvoir) and ordered the reconstruction of its destroyed parts,[14] which means that Saladin tried to repair the castle and keep it functioning. However, the emirs and other Muslim important figures, such as al-Iṣfahānī, seems likely to think differently; as mentioned earlier, the emirs did not want to hold it, and al-Iṣfahānī clearly said that it would be better to build Bysan and destroy Belvoir.[15] It seems likely that in this stage Saladin carried out only some restoration works to fill the gaps that were created by the undermining, but this is still not clear and currently cannot be seen in the standing architecture.

Later on, ʿIzz al-Dīn Sāma/Usāma received the castle and controlled it together with ʿAjlūn in Transjordan. Ibn Wāṣil, who is regarded among the most important and reliable historians of this period, stated that all of ʿIzz al-Dīn Usāma's military stock and treasury were held at Belvoir.[16] He added that al-Malik al-ʿĀdil asked ʿIzz al-Dīn Usāma to surrender the two castles and to take other castles instead, but he refused. Some emirs advised him to do so, but he refused again, which was what led al-Malik al-ʿĀdil to capture ʿIzz al-Dīn Usāma and then to besige the two castles of Belvoir and ʿAjlūn. Ibn Wāṣil says that the garrisons of the castles "surrendered them for some things" that they were promised by the besiegers. After taking Belvoir, al-Malik al-ʿĀdil ordered its destruction. This was described as having occurred during 608 H (June 1211–June 1212).[17] In the next year or in the same year, Ibn Wāṣil said, al-Malik al-ʿĀdil built the castle on Mount Tabor, which the medieval contemporary historians agree was not a good idea.[18] The accepted idea is that Belvoir was demolished together with the newly built fortress in Mount Tabor and the walls of Jerusalem, in 1219 during the Fifth Crusade, and was done so on the order of al-Malik al-ʿĀdil in order to prevent a situation in which the Crusaders recovered them as fortified places.[19] However, as was mentioned earlier, the destruction of Belvoir took place a few years earlier for other reasons, unlike the fortification on Mount Tabor and the walls of Jerusalem, which are clearly mentioned in the accounts relating to 1219.[20] This is not the place to discuss these events in details, but it is certain that there was an important strategic reason for al-Malik al-ʿĀdil to think about shifting the main fortification of the region from Belvoir to Mount Tabor, which was a great effort and obliged him to spend large amounts of money for both the destruction and the construction. One of the reasons might have been connected with the location of the castle and its strategic importance as we shall presently demonstrate.

---

[14] Bahāʾ al-Dīn Ibn Shaddād, *al-Nawādir al-sulṭāniyya*, 354; Richards, *The Rare and Excellent*, 236.

[15] al-Iṣfahānī, *al-Fatḥ al-qussī*, 6201 (420); idem trans Massé, *Conquête de la Syrie*, 397.

[16] Jamāl al-Dīn Ibn Wāṣil, *Mufarrij al-kurūb fī akhbār banī ayyūb*, ed. Jamāl al-Dīn al-Shayyāl, 3 vols (Cairo, 1953–60), 3:209–210.

[17] According to Abū Shāma the event started after the end of Rajab 609 (26 November 1212), and soon after ʿIzz al-Dīn was captured and the two castles were taken (Abū Shāma, Shihāb al-Dīn al-Dimashqī, *Kitāb al-rawḍatain fī akhbār al-dawlatain al-nūriyya wa'l ṣalāḥiyya*, ed. Ibrāḥīm Shams al-Dīn, 5 vols. (Beirut, 2002), 5:124.

[18] Ibn Wāṣil, *Mufarrij al-kurūb*, 3:209–210, 216. Abū Shāma suggested that the building in Mount Tabor started in 607 H (5:118).

[19] See, for example, Meron Benvenesti, *The Crusaders in the Holy Land* (Jerusalem, 1970), 297, 359–360; Denys Pringle, *The Churches of the Crusader Kingdom of Jerusalem*, vol. I (Cambridge, 1993), 120–121; Adrian Boas, *Archaeology of the Military Orders: A Survey of the Urban Centres, Rural Settlement and Castles of the Military Orders in the Latin East (c. 1120–1291)* (London and New York, 2006), 229; idem. 2017, 107; Rabei G. Khamisy and Denys Pringle, "Richard of Cornwall's Treaty with Egypt, 1241," in *Crusading and Trading Between West and East: Studies in Honour of David Jacoby*, eds. Sophia Menache, Benjamin Z. Kedar and Michel Balard, Subsidia of Crusades 12, (London and New York, 2018), 54–84, at p. 68. ʿIzz al-Dīn Ibn Shaddād stated that the destruction had occurred in 1219 (ʿIzz al-Dīn Ibn Shaddād, *al-Aʿlāq al-khaṭīra fī dhikr umarāʾ*

There is no mention of the date when ʿIzz al-Dīn Usāma received Belvoir, but Emir Qaymāz al-Nijmī died on 1 March 1200 and Belvoir, which he had received on 5 January 1189 without wanting it, was not mentioned as part of his important properties; perhaps he completely neglected it.[21] It seems likely that ʿIzz al-Dīn Usāma received the castle after that and repaired it. He used it as the main stronghold for his treasury and armoury, which means that during this short period, between 1200 and 1211/1212, Belvoir was highly regarded by a Muslim ruler. However, sultan al-ʿĀdil did not like this and made efforts, together with his son al-Muʿaẓẓam, to exchange it for other places. When this did not work, they captured and demolished it. Perhaps they did not want a fortress in this location for fear of a Frankish comeback, although there was no active Crusade at the time.

Although the ruined castle returned to Frankish hands either in 1241 or 1243/1244 and remained with them until 1266, and although it is mentioned that the Hospitallers intended to rebuild it in 1243/1244[22] as well as reaching an agreement with the archbishop of Nazareth over its tithes on 25 October 1259,[23] there does not appear to be any evidence to suggest that it was ever refortified after 1241. Indeed, ʿIzz al-Dīn Ibn Shaddād, a late thirteenth-century writer and biographer of Baybars, states explicitly that it was not.[24] In fact, if there had been a strong Hospitaller fortress after 1241, one would expect to find its occupation by Baybars mentioned in the sources, but there is no such notice in the very detailed Mamlūk sources regarding Baybars' reign.[25] It seems likely that the Muslims had no interest in holding a castle in this location. They did not build a castle there in the Early

---

al-shām wa'l jazīra, ed. Sāmī Dahhān, *Taʾrīkh lubnān, al-urdunn wa-filasṭīn* (Damascus, 1962), ɪɪ.ii: 161).

[20] Abū Shāma, *Kitāb al-rawḍatain*, 5: 165, 174–175. Ibn al-Athīr, *al-Kāmil fī al-taʾrīkh*, ed. Vol 9, Muḥammad al-Daqqāq, 11 vols. (Beirut, 2003), 10:259, 375. The only study we could find that referred to the destruction in 1211/1212 was published by Biller (Thomas Biller, "Die Johanniterburg Belvoir am Jordan: zum frühen Burgbau der Ritterorden im Heiligen Land," *Architectura* 19 (1989), 105–136, at pp. 110–111).

[21] For his biography see Abū Shāma, *Kitāb al-rawḍatain*, 4: 272–273.

[22] For discussion about these sources see Khamisy and Pringle, "Richard of Cornwall's Treaty," 68–69.

[23] Cart. Hosp. II: 883, no. 2937.

[24] ʿIzz al-Dīn Ibn Shaddād, *al-Aʿlāq al-khaṭīra*, ɪɪ.ii: 161.

[25] For this idea see Rabei G. Khamisy, "The History and Architectural Design of Castellum Regis and Some Other Finds in the Village of Miʿilya," *Crusades* 12 (2013), 13–51, at p. 18.

Muslim period, and they did not do so after the Frankish period. The only time they used the place as a fortification was between 1189 and 1211/1212, or more accurately between 1200 and 1211/1212, when they used the existing Frankish castle. During this time the location of Belvoir was regarded as a frontier for the Muslims, with the Franks ruling the coastal area. In the rest of the long history of their control, this area was not regarded by the Muslims as being highly important. In contrast, this location had been of utmost importance to the Franks and had led them to construct there, before the Battle of Ḥaṭṭīn, one of the strongest and most sophisticated castles of the Frankish period.

Methodology

This study opens with a critical examination of the historical accounts that mentioned Belvoir, to learn about its importance and development during the twelfth and thirteenth centuries. In addition, all the studies regarding the castle were examined. We conducted a field survey in which we mainly examined the connections and seams between the existing walls, and measured, drew and photographed all the entrances with bolting systems. We created new detailed maps of the castle showing its two main phases and marked all their doorways. The existence and the absence of bolting systems help to identify the planning of the defence lines. Each gate was numbered, starting from the outside of the castle and moving inside.

Description of the castle

Belvoir castle is a fine example of concentric defence, comprising a moat and two *quadriburgia*. The accepted suggestion by researchers is that the castle was built by the Hospitallers in a single phase between 1168 and 1172, in which they constructed the final shape that can be seen today. It is also agreed that the pre-Hospitaller fort was only a small fortification.[26] Shotten-Hallel et al. claim that there was a phase of renovations in the castle between 1241 and 1266, to which they attributed the reconstruction of the chapel.[27] However, we claim that

[26] The castle was extensively discussed by scholars, and there is no need to repeat the discussion here. For some detailed discussions see Meir Ben Dov, “The Excavations at the Crusader Fortress of Kokhav-Hayarden (Belvoir),” *Qadmoniot* 1/5 (1969), 22–27; Boas, *Archaeology of the Military Orders*, 122–123, 229; Ronnie Ellenblum, *Crusader Castles and Modern Histories* (Cambridge, 2007), 239, 244, 247, 249, 251, 254, 283–284; Hugh Kennedy, *Crusader Castles* (Cambridge, 1994), 59–61; Pringle, *The Churches*, 120–122; idem. *Secular Buildings*, 32–33; Vardit R. Shotten-Hallel, Eytan Sass and Lydia Perelis Grosswicz, “The Hospitaller Castle of Belvoir: Setting the Scene for a Discussion of the Topography, Geology and Architecture,” in *The Crusader World*, ed. Adrian Boas (London and New York, 2016), 490–518. For other publications of the most recent research project at the site see, for example, Anne Baud et Laurent D’Agostino, “Le château de Belvoir (Galilée): utilisation des agrafes en fer dans l’enceinte,” *OpenEdition Books* (published online 2020, https://books.openedition.org/momeditions/9792).

[27] Shotten-Hallel et al., “The Hospitaller Castle of Belvoir.”

constructing a chapel should logically take place during the last phases of the reconstruction, which would mean that the fortifications had also been rebuilt, and this was not the case as we have already explained.[28]

The fortress as described by scholars consists of an outer fortification; a *quadriburgium* of about 100 m sq. with four projecting towers at the corners and another three in the middle of the northern, southern and western walls. These sides were separated from the plateau by a deep and wide moat excavated into the basalt. The eastern side, in contrast, stands on the top of a slope falling down to the east. On this side the Hospitallers built a very complicated entrance system (thereafter barbican). It consists of a gate in the south-eastern corner, a well-defended passageway and a large building down the slope, which was probably a projecting tower in the middle of the eastern wall, but this is not sure. The inner side of this *quadriburgium* was circled by vaults. Another smaller *quadriburgium* measuring about 46 m sq. was built in the centre. It has projecting towers at its corners and a gate tower projecting from the middle of the western wall. The design of the whole complex is well arranged, and as we will show later, there were stages of defence work which related to the passages and entrances, not only to the walls, towers and moat.

Before describing the passages and their relationship with the gates, we would like to present a revised plan of the castle, indicating the two major phases of building. The first major phase of 1168–1172, under the Hospitallers, probably contained the two *quadriburgia* with the moat (Figure II.15.2), while the second phase, with the complicated barbican on the east (Figure II.15.3), might have been added either by the Hospitallers between 1172 and 1187 or by the Ayyubids between 1188 and 1211/1212. However, as we shall presently demonstrate, our study assumes that this happened under the Hospitallers, with some possible strengthening by the Ayyubids, particularly under ʿIzz al-Dīn Usāma, who used the castle as a main stronghold.

During the early 1180s, Saladin started to concentrate his attacks on this region, causing great damage to the settlements, including some fortifications, and agriculture.[29] It seems likely that after the rise of Saladin, the increasing threat to the Frankish kingdom encouraged the Hospitallers to add this part in preparation for future attacks. Similar activities seem to have been carried out at other castles in the kingdom, such as Bethgebelin (Bet Guvrin), which also belonged to the Hospitallers, where an elaborate entrance system was added in the 1170s, and Belmont (Suba), which was also Hospitaller.[30] These castles, together with Darum, were originally much smaller, but greatly expanded due to the attacks by Saladin in the very early 1170s. Perhaps that is why, when Belvoir was under construction at exactly this time, it was planned to have two *quadriburgia*. The extension and strengthening of Belvoir, however, seems to have been taking place directly after that and more possibly following Saladin's attacks in this specific region in the early 1180s.

---

[28] In a personal talk with Shotten-Hallel she agreed that the chapel was built in the twelfth century.

[29] For summary of the attacks by Saladin see B. Z. Kedar, "The Battle of Ḥaṭṭīn Revisited," in *The Horns of Ḥaṭṭīn*, ed. Z. Kedar Benjamin (Jerusalem and Aldershot, 1992), 190–207, 192.

[30] For Bethgebilin see Pringle 1993: 95; 1997: 27; Boas 2006: 116–118, 229–230; for the idea of the relation between the political situation and the strengthening of the fortifications see A. J. Boas, "Three Stages in the Evolution of Rural Settlement in the Kingdom of Jerusalem during the Twelfth Century," in *Laudem Hierosolymitani: Studies in Crusades and Medieval Culture in*

The eastern side of Belvoir is the only side that has no ditch and was exposed to undermining. That is why it was always suggested that the undermining and breaches by the Ayyubids, mentioned by Ibn Shaddād, were done on this side.[31] However, the description by the contemporary historian Ibn al-Athīr clarifies things even more. Ibn al-Athīr, in his detailed description of the occupation by Saladin, was the only one to say that the Muslims succeeded in breaching the "Bāshūra" and then climbed up to the upper wall.[32] The only place that fits very well with this description is the eastern side, where there is a "Bāshūra" (an outer wall with structures attached to it),[33] from which one could climb to the upper walls. This may be a clear indication that the second phase with the complicated entrance was added by the Hospitallers before 1187. In addition, the building style of the two rows of arrow slits along the entrance is similar to the style of the other arrow slits in the castle; they are built with basalt ashlars, while their arches are from limestone. This may indicate that the Bāshūra or barbican was also designed and built by the Hospitallers. The additional information that we learn from Ibn al-Athīr's text is that it was easier for the Ayyubids to undermine the walls on the slopes than to access the passage to the fortress. In other words, the defences of the entrance had functioned perfectly for 18 months until the fortress fell as a result of undermining. It is highly likely that the castle was also affected by the very severe earthquake in 1202, and it can be suggested that ʿIzz al-Dīn Usāma, who used the castle as his main base, would not have allowed it to remain in ruin for long, although remains of this period have yet to be positively identified.

The first phase, as mentioned earlier (Figure II.15.2), included all the castle except for the barbican along the eastern side. It is possible that there was a projecting tower in the middle of the eastern wall, similar to the other ones, but this was changed later. In the later phase (Figure II.15.3) the barbican was added with several other changes to create the last complete plan of the castle. One of these

---

Honour of Benjamin Z. Kedar Crusades Subsidia, eds. Iris Shagrir, Ronnie Ellenblum and Jonathan Riley-Smith, *Crusades subsidia* (Ashgate – Hampshire and Burligton, 2007), 77–92.

[31] Ibn Shaddād, *al-Nawādir al-sulṭāniyya*, 153; Benvenisti, *The Crusaders*, 297; Boas, *Crusader Archaeology*, 107; Michael Fulton, *Artillery in the Era of the Crusades: Siege Warfare and the Development of Trebuchet Technology* (Leiden and Boston, 2018), 181.

[32] Ibn al-Athīr, *al-Kāmil*, 10, 177.

[33] For discussion on the term Bāshūra see Rabei G. Khamisy, "Montfort Castle (Qalʿat al-Qurayn) in Mamluk Sources," in *Montfort: History, Early Research and Recent Studies*, eds. Adrian J. Boas A. J. and Rabei G. Khamisy (Leiden and Boston, 2017), 28–40, at p. 33 n. 46.

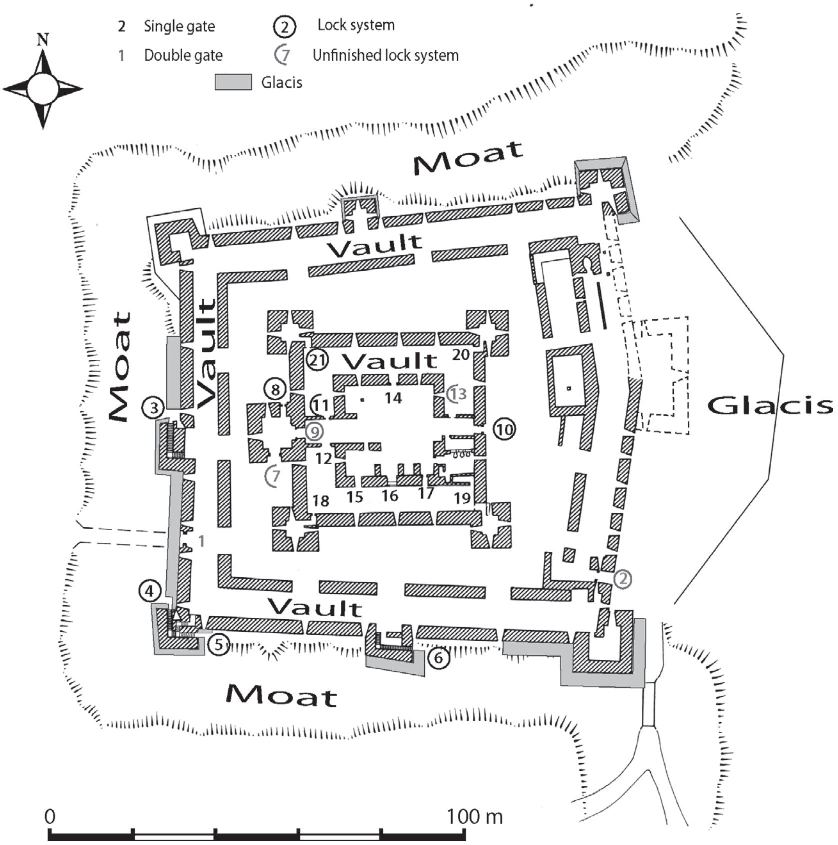

N
2 Single gate
1 Double gate
② Lock system
7 Unfinished lock system
Glacis
Moat
Vault
Moat
Vault
Vault
Glacis
Vault
Moat
14
12
18 15 16 17 19
20
21
8
11
13
9
10
7
3
1
4
5
6
2
0
100 m

Figure II.15.2 Suggested plan of the first phase of Belvoir, built between 1168 and 1172 (drawing by Svetlana Matskevic. After M. Ben-Dov 1975). © R. G. Khamisy

additions was the addition of walls and an entrance (postern) to the north-eastern projecting tower.

Unlike the accepted idea, we claim that the main entrance to the castle was always the one on the west between the two projecting towers in the southern half of the wall (no. 1). This is the largest entrance in the castle with a 3-m-wide opening. The entrance was reached by a drawbridge above the moat, which seems likely to have been very strongly constructed to allow horses, crops and all necessary things to get inside the castle in safe times. If needed, the bridge could have been moved, or even destroyed, and other entrances used. There are no remains of supports of the bridge in the moat, as it is supposed, but these perhaps were completely destroyed with the destruction of the castle, or even mistakenly removed during the excavations of the site. Another possibility is that the supports were constructed from wood and no remains of them had been preserved.

There was another large entrance in the eastern wall on the opposite side of the castle. (no. 2). The way to this entrance, possibly by a bridge over the moat, is difficult due to the topographical situation, which makes it effective in terms of defence.[34] In addition, there are four posterns in three towers (nos. 3–6) – the south-western ones – and all of them lead out to the moat. These could be used in day-to-day life for work in the moat, and we suggest that it was used for keeping animals, or even for storage. The moat is more than 300 m long and 20 m wide, which makes it very logical to suggest that it had different uses, including perhaps as a training area for the knights. The other use of the posterns could have been for surprising the enemy during sieges or for escaping or getting inside without being exposed to the enemy. In fact, the posterns are partly covered by the projecting glacis and can only be seen from specific parts of the moat, places which would be very dangerous to reach in time of siege. That is why it is possible that the enemy did not know what was happening at these posterns. It should be noted that all the posterns have bolting systems and they open to the inside. The posterns lead to the castle through narrow, steep and dark staircases inside the thickness of the walls, and in all of them one should turn through 90 degrees at least once. This means that reaching them would be difficult, and access through them was almost impossible for the enemy. Both Kennedy and Ellenblum suggested that the successful attacks by the Hospitallers on Saladin's camp, described by Ibn al-Athīr, were carried out through the posterns.[35]

Entering the castle from either gate (nos. 1, 2) leads to a ring of vaults attached to the inner side of the wall. These were certainly divided into numerous chambers for different uses.[36] From there, one could reach the gate tower of the inner castle from different directions, but only after making several 90-degree turns, a typical feature of Frankish castles. However, the way from the main west entrance, used only in safer times, is shorter and more direct. The gate tower of the inner *quadriburgium* has two entrances, the main one on the south and a smaller one on the north (nos. 7, 8), but the bolting system of the former is unfinished, rendering it partly ineffective. Both entrances (nos. 7, 8) are defended by arrow slits. After entering the tower, there was a 90-degree turn to get to the main gate into the inner castle (no. 9).

There is another small entrance to the inner *quadriburgium* in the middle of the eastern wall (no. 10), directly opposite the main entrance (no. 9). To reach it from either gate (nos. 1, 2) also involved a number of 90-degree turns and, although it had no gate tower, it was well defended by the two projecting eastern towers and perhaps also by a machicolation. This gate is much smaller than gate no. 9. The size and location of these two entrances clearly show that no carts (if any existed) could reach the central yard of the castle, and it is also quite difficult for pack animals, which means that things were brought here mainly by hand.

---

[34] In her research, Mol suggested the same, although she dealt with the eastern side with gates no. 2 and no. 2a as being built in the same phase (Eva Mol, *Hidden Complexities of the Frankish Castles: Social Aspects of Space in the Configurational Architecture of Frankish Castles in the Holy Land, 1099–1291* [Leiden, 2012], 63–74).

[35] Ellenblum, *Crusader Castles*, 283–284; Kennedy, *Crusader Castles*, 110. Kennedy added that the Frankish troopers sneaked through these doors, killed the Muslim officer in charge and retreated back to the castle.

[36] We would like to suggest that the stables of the castle were located in these vaults, either on the right or left side after entering gate no. 1.

The two gates (nos. 9, 10) had bolting systems, allowing the inner ward to be isolated in the event of the enemy gaining access to the outer castle. The weak point is that gate no. 7 of the gate tower had no finished bolting system, which meant that the enemy could easily have gotten inside the tower. Interestingly, the only unfinished part is the small niche where the beam should be placed. This would be a few minutes' work. The reason it was left unfinished is unknown, but it may be that part of this side of the entrance was restored there after the excavation in the 1960s. In fact, photographs from after the excavations show that restoration works had been carried out on the arches of the gate. Perhaps, these and other restoration works on the castle were not accurate and did not restore the original situation.

The inner castle was also surrounded from inside by long vaults, and at its centre there is a rectangular courtyard from which seven separate entrances gave access to different sections of the vault, which means that the garrison would in theory have been able to continue to fight even if the enemy reached the centre of the castle. However, of the seven doors to the vaults (nos. 11–17), some are completely preserved, and they had no bolting systems. From the vaults one could reach the four projecting towers, which are indeed the last line of defence. Each of them has one entrance (nos. 18–21) with a 90-degree turn, but only the north-western one had a bolting system (no. 21). It is possible that the rest did not have such a system because of the simple reason that if the enemy had reached this point, the castle would surrender anyway. However, the fact that some of the entrances from the central yard and the vaults as well as the entrance of the north-western tower had bolting systems or unfinished ones, means that the intention was that they should have had them, perhaps to be used as another obstacle for the enemy. In addition, it is possible that the treasury and archives were kept in the locked tower, which is indeed the last defence line and the most protected element on the first floor of the castle, but these also could be held on the second floor. It should be noted that neither of the towers has remains of stairs, which means that reaching their second floor, if it existed, was by the stairs on the southern side of the central yard.

In the second phase (Figure II.15.3) the barbican (the whole sophisticated entry complex) was added on the eastern side. The seam between the western side of the newly built gate (no. 2a) and the tower clearly shows that the gate was added at a later date (Figure II.15.4). We assume this phase should be dated to before 1187, as mentioned earlier. This is among the most complicated and sophisticated systems that the Franks had constructed. The gate was probably reached by a bridge. The entry complex consists of a ramp of almost 40 m long, directed south-north and protected by arrow slits along its western side, and at the end of the ramp another parallel one directed north–south can be reached after turning 180 degrees, and it

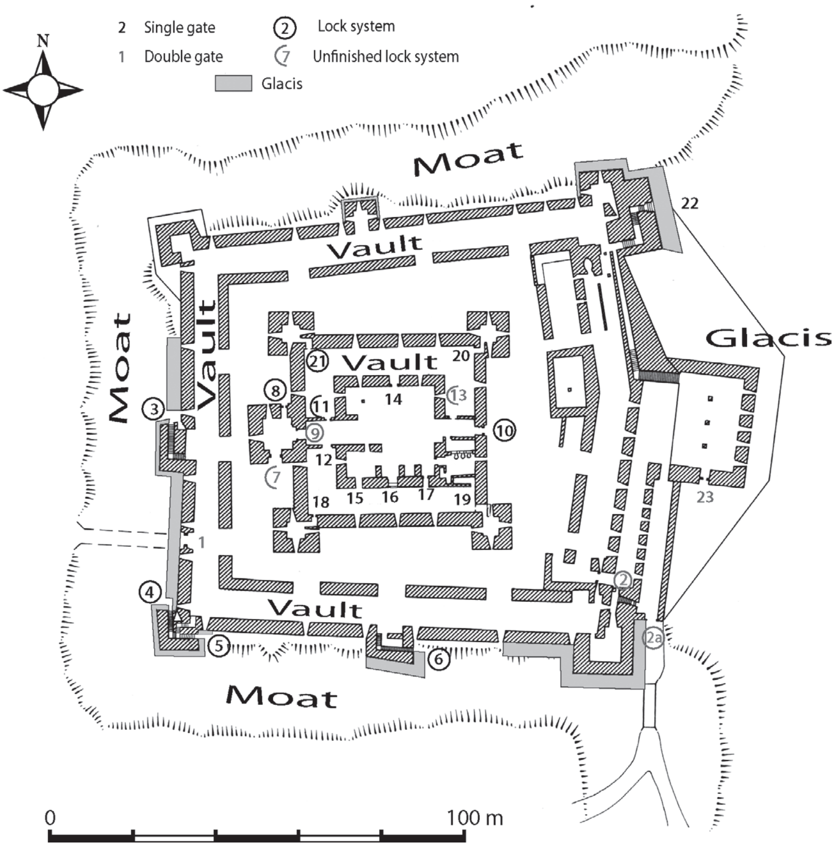

N
2 Single gate
1 Double gate
② Lock system
7 Unfinished lock system
Glacis
Moat
Vault
Glacis
Moat
Vault
Vault
Vault
Moat
1
2
2a
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
0
100 m

Figure II.15.3 Suggested plan of the second phase of Belvoir, built until 1187 (drawing by Svetlana Matskevich. After M. Ben-Dov 1975). © R. G. Khamisy

leads to gate no. 2. This ramp was also protected by arrow slits along its western side. The ramps are un-levelled, with the bedrock still covering many sections on their length. This clearly means that this passage was not prepared to be used for safe times; carts, if they existed, and pack animals could not easily enter the castle through it.

At the end of this pathway, reaching gate no. 2 involved turning 90 degrees to the right and climbing a few steps, which makes it even more difficult for pack animals and attackers. It should be noted that the gate was protected by two embrasures, slit machicolation and a strong bolting system. It is very clear from the topography and the bedrock along the way, and the 180- and 90-degree turns, that this entrance had never been planned and constructed to serve as the main entrance to the fortress. That is why we claim that the western gate (no. 1), above the moat, was the only main gate of the fortress and that it was blocked in times of war. In

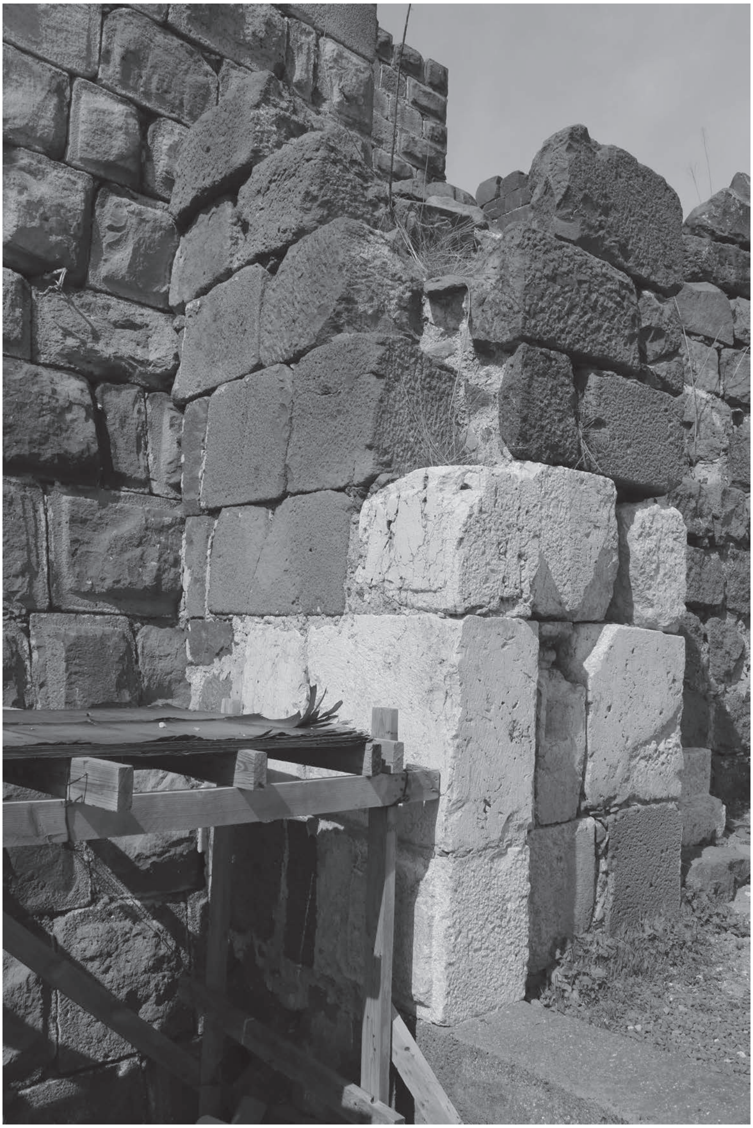


Figure II.15.4 The seam between the western side of gate no. 2a and the south-eastern projecting tower. © R. G. Khamisy

such a situation, the complicated entrance would be used. During such times, there would be no extensive movements to and from the fortress. The system in such cases was entirely planned as a defensive system with obstacles in order to create killing zones at every point along.

Interestingly, the style of the bolting system of this new gate (no. 2a) is different from all other bolting systems in the castle. The gate is 2.49 m wide, and it needs a beam (draw-bar) of more than 2.7 m long in order to be able to lock it. This would need a long slot somewhat longer than 2.7 m in the western wall of the gate, and this was impossible because it would reach the eastern wall of the south-eastern corner tower, to which the gate was attached. Creating a deep slot in an existing wall was impossible (see later, the description of how the deep niches were created). Here we can clearly see how the builders used a different style of bolting system, which fits very well with the previously existing walls.

Perhaps at the same time this barbican was added, the north-eastern outer tower was partly blocked by a massive wall and a postern was added there (no. 22). It was quite difficult to reach it because it is located high above a small cliff. It also has two turns of 90 degrees. However, the addition on the tower can also be dated to the Ayyubid period, presumably to after the severe earthquake of 1202.

The gates and their bolting systems

It should be asked how strong these gates really were, and how they functioned. The unfinished bolting system may indicate that the builders thought about them, but inside the castle they were not necessary for the simple reason that they would not be used as part of the defence; as was already stated, the castle would have surrendered before there was a need to use them, which indeed was the case after the Ayyubids breached the eastern wall. However, the outer gates survived the siege for 18 months and it is almost certain that some of them were attacked a few times, at least from a distance.

At present, 23 gates have survived in Belvoir castle (Figure II.15.3) and in those which have the remains of a bolting system (except gate no. 2a), the same idea was recognized. A horizontal movable draw-bar was mounted in slots in the masonry behind the door, preventing it from opening into the protected area. The long slot should be longer than the width of the opening and the small niche together. The best practice to create the deep slot (in one case it reached a depth of 4 m) was to pre-cut recesses in the edges of the ashlars before the assembly of the wall. In many cases, the slots are built with smaller stones, sometimes field stones, in their deep parts inside the thickness of the walls. The shallow slot was much easier to cut, and it was also usually cut at the edge of one ashlar. However, sometimes this is not the case, and the slots were not perfectly built. One of the important things that we can learn from the slots is the thickness of the door. This can be measured accurately between the jambs and the slots. The other thing is the thickness and strength of the bar, which we calculated but will not present here.[37]

---

[37] Our article about this topic will soon be submitted for publication (Rabei G. Khamisy and Moshe Bram, “Bolting Systems and Their Effectiveness in Antiquities: Belvoir as a Case Study”).

It is highly likely that all the niches have a woody liner mounted on the bottom of the niche that would enable the beam to run smoothly. Such a liner was found in the Tower of London,[38] with an estimated thickness of 0.5 cm. In addition to these points related to the structure of the doors and beams, the slot also tells us that the building was pre-planned, because it is impossible to add the long slot to a standing wall.

Once the garrison wanted to bar the gate, they would draw the locking bar along the width of the gate, and then we suggest that metal wedges were hammered in the horizontal clearance between the slot and the bar (Figure II.15.5). This will attach the bar to the door, creating one solid block by increasing the moment of inertia.

In conclusion, the physical calculation revealed that the withstanding force of the single doors in Belvoir is higher than in a double-wing door against ramming, but it also revealed that both needed great energy to be broken. In any case, the two outer gates of phase one (nos. 1, 2) cannot be rammed because of their location on a high building or ground, and the same is right regarding gate no. 2a of the second phase. The posterns were located in defended areas against attacks as well. Even if the enemy reached them, the rams cannot be operated against them because there was no room for it between the postern and the talus (Figure II.15.6).

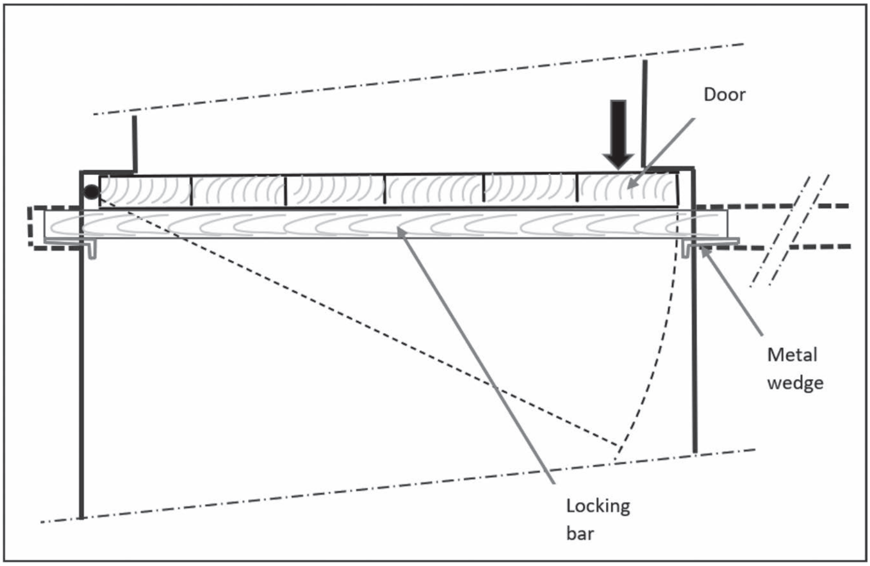


Figure II.15.5 Single-wing door; top view. Locking bar in clamped position assisted by metal wedges. © M. Bram

---

[38] Personal communication with P. Burton, 2016.

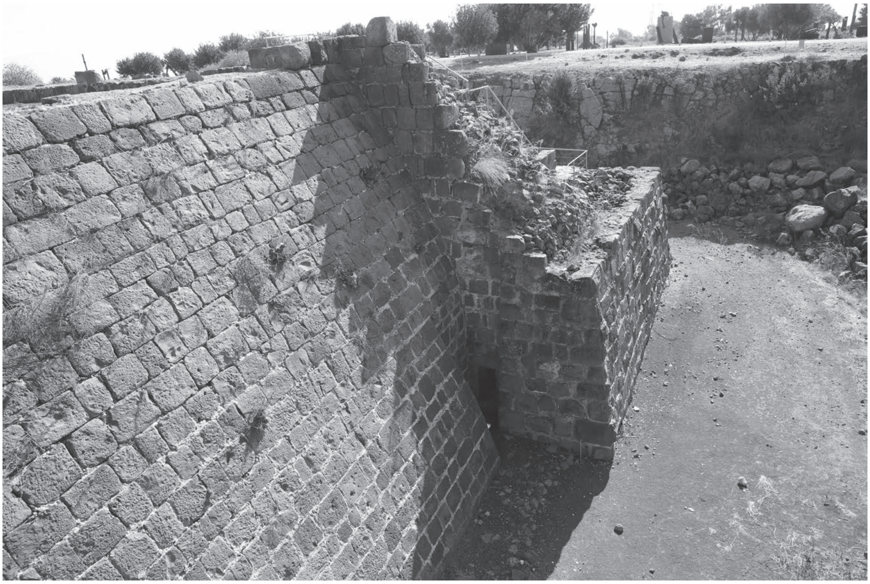


Figure II.15.6 A defended postern by the talus on the north side of the projecting south-western tower. © R. G. Khamisy

The doors of Belvoir seem likely to have been covered by a layer of metal with a high density of nails,[39] which makes them uninflammable and much stronger. In this case it would be very difficult to access through the gates.

Conclusions In this chapter it was argued that Belvoir castle was built in at least two main Hospitaller phases, the first dated to 1168–1172 and the second, in which the southern-eastern gate (no. 2a) and the barbican were built, dated to after 1172 and before 1187. This assumption is based on the unique construction of the bolting system of gate no. 2a, the seam between the gate complex and the eastern wall of the outer castle, the style of the arrow slits and the historical sources that strengthen this idea. In all phases, the main gate was no. 1 in the western wall, which was very easy to decommission in times of war, during which the less accessible gates, nos. 2 and 2a, would be used as the main entrances. The location of Belvoir was regarded as greatly important for the Franks, and this seems likely to have been the main reason why the Hospitallers built such a great castle there; it is located near the main passage going through the Jordan Valley, and also in a place observing the boundaries of the kingdom. This was not the case for the Muslims, as for them the location has no real strategic importance, which seems likely to have been the reason why they were not interested in building a castle there or even to hold an already-built castle. The place threatened them because of the fear that the Franks could take it again. That is why the only Muslim ruler who held the place as a base was emir ʿIzz al-Dīn Usāma, who used it to hold the treasury and armoury. However, it was soon taken and destroyed by the sultan al-Kāmil and his son. It is more than likely that ʿIzz al-Dīn Usāma undertook some construction activities, which will hopefully be identified in the future.

---

[39] Meir Ben-Dov, "Crusader Fortresses in Eretz-Israel," *Qadmoniot* 8/4 (1975), 102–113, at p. 112 (Hebrew).

The gates of the very outer wall were all equipped with a bolting system and fairly difficult access behind them. In addition, it seems likely that all the doors of these gates were covered with a metal layer defending them from firing. The same methods seem likely to have been used for the two main gates of the inner castle, nos. 9 and 10, and possibly also for the gate of the north-western corner tower of the inner *quadriburgum*, which we suggest was used to keep the treasury and archives of both the Hospitallers and ʿIzz al-Dīn Usāma.

As a result of thorough investigation of the gates and their bolting systems, we can argue that this classic-built concentric castle was designed to have three defence envelopes and two other zones that could serve for defence:

- The first defence envelope included a natural slope on the east side and a dug moat on the north, west and south sides. For daily use of the castle, a bridge was stretched over the western moat (there is no proof of this bridge, but the existence of the wide gate no. 1 points that it is a logical assumption).
- The second defence envelope was the outer castle/*quadriburgium*.
- The third defence envelope was the inner castle/*quadriburgium*.

The other zones of defence are:

- The vaults of the inner castle that can be reached from the central yard, but this zone was not finished because many of its entrances had no bolting systems.
- The towers of the inner castle, especially the north-western tower with the gate that has a bolting system, had probably been used as the last refuge of the first floor, and in daily life perhaps as the place for keeping the treasury and other important things.

In addition to these zones, the second floor of the inner castle would be used for the last refuge of the castle, especially its corner towers, which seem likely to exist there; the walls of the first floor are very thick and seem likely to have been constructed to hold another floor, and as mentioned earlier, there was no direct access between the floors of the towers, which makes the second floor even more fortified.

This study, based on critical analysis of all important sources regarding Belvoir, a detailed survey of the standing walls and studying the effect of the gates, sheds new light on the history, planning, development and military functioning of one of the most important twelfth-century castles in the Latin East. This may reflect on the studies of other Frankish fortifications in the Levant. Future surveys and excavations are essential to clarify things yet further.

Index

Note: Page numbers in *italic* indicate a figure and page numbers in **bold** indicate a table on the corresponding page.

Achaïa, Principality of 269–271

Acre Ware 168–169, *168–169*, 171, 174, 176, *176*

agreement among historical sources 279–280; loopholes 282–287; manuscript 280–282; objects 288–295

animal size 230–233, *232–233*

Antioch, Principality of 156, 162, 164–166, 171, 172

archaeology, non-destructive 5–27; *see also* building archaeology; excavation; landscape archaeology

architectural analysis 307–309

Armenian Cilicia, Kingdom of 162, 164–166, 172–173, 266–269, 273–274

arrowheads 288–292, **288–290**, *291*, 292–295

arrow-loops 255–259, **256**, *257–258*; Armenian Kingdom in Cilicia 266–269; Kingdom of Cyprus/Principality of Achaïa 269–271; Kingdoms of France and England 271–273; Kingdom of Jerusalem and County of Tripoli 259–265, *260–261*, *264–265*; origins, diffusion and use of 273–278, *276–277*

Arsur Castle 74–75, 106; archaeological excavations at 77–83, *78*, *80–83*; building archaeology 83–85; chronological order of construction and destruction 75–77; gates and portals 89–91, *89–91*, 97–100, *98–100*; Hospitaller phase 96–105; Ibelin phase 85–96; masonry walls 92–96, *92–93*, *95–96*, 103–105, *104–105*; paving 91, 100–103, *101–103*

Ascalon 5–11, 86, *190*, 281; *see also* Frankish blockade of Fāṭimid Ascalon

ashlars 34–40, 43–46, 92–96, *92–93*, *95–96*, 103, 324

ʻAtlit 235–236, 253–254; context of discovery 236–240, *237*, *239–240*; evidence of a workshop 245–247, *246*; local and extra-regional networks 249–253, *251*; materiality and symbolic value 247–249; mother-of-pearl pendants (2019) 241–245, *243*, *244*

Beirut 166–168, *167*

Belvoir Castle 310, *311*, *319*, *322–323*; description 316–324; gates and bolting systems 324–328; historical background 311–316; methodology 316

Bethgibelin 55

Blanche Garde fortress 29–30, 46–47, *47*; description of excavated remains 30–32, *30*, **31**, *32*; fortress collapse 44–46, *45*; Fortress Wall 155505 37–40, *39*; northwestern corner fortifications 32–37, *33–35*, *37*; Terrace Wall 85420 40–44, *40–42*

bolting systems 316, 320–322, 324–328, *325–326*

building archaeology 83–85, 106

Byzantine Empire 136, 201–204, *203*, 223

castles *see* Arsur Castle; Belvoir Castle; Ibelin Castle; Safed and Safed Castle

cemeteries 236–238, 242–249, 296, 298–300; *see also* ʻAtlit

ceramic production 156–161, *159*, 179–180; Acre 168–169, *168–169*; Beirut 166–168, *167*; continuity and change 172–174; cultural identity of the potters 174–175; Cyprus and the Levant

169–170, 171; developing industries under the Franks 178–179; Lebanese and Syrian coast 171; organization of production centers 172; Paphos-Lemba 162–164, *163*; Principality of Antioch/Kingdom of Armenian Cilicia 164–166, *165*; Southern Levant 170–171; specialized production for export 175–178, *176*; wares and workshops 161–171
change 172–174
Christians *see* Eastern Christians
Church of St. Anne (Dair as-Saidnaiya) 147–153, *148–149*, *151–152*
coin evidence 188–197, *189–191*, *193–195*
collapse, fortress 44–46, *45*
contemporary minting tradition 197–198
continuity 172–174
cross-pendants *see* mother-of-pearl cross-pendants
cultural identity 161, 172, 174–175, 179
Cyprus, Kingdom of 7–8, 86–87, 156–164, 169–175, 179–180, 269–271, 299–300

Dair as-Saidnaiya *see* Church of St. Anne (Dair as-Saidnaiya)
defence 96–97, 316–321, 327; *see also* arrow-loops
destruction 75–79, 314–315
developing industries 178–179
documentary evidence: existence of mints in different cities 184–188; 'mint or mints' 182–184
donkeys 218–219, *219*; *see also* horse and donkey shoes

Eastern Christians 120–121, 153–155, 215
England, Kingdom of 271–273, 275
enlarged-based arrow-loops *see* arrow-loops
epitaphs 296, 298, 309
Europe: and arrow-loops 273–275; and Crusader landscapes 117–120; and horse and donkey shoes 216–219, 222–225, 227–234; and minters and mints 198–201, *199*, 210–211; and *Pardouns de Acre* 112–114; and Safed Castle 292–294
evidence: coin 188–197, *189–191*, *193–195*; documentary 182–188
excavation: Arsur 77–83, *78*, *80–83*; Blanche Garde fortress 29–47; cemetery at Safed 298
export 175–178

Fāṭimid Ascalon *see* Frankish blockade of Fāṭimid Ascalon
Fatimid empire 204–207, *205*, 215
fortifications: Blanche Garde 32–37; Fāṭimid Ascalon 50–51
fortresses: Ascalon 51–55, *52*; Bethgibelin 55; Gadres (Gaza) 57; fortress collapse 44–46, *45*; Ibelin 56; Summil (Summeil) 58–60, *59–60*; *see also* Blanche Garde fortress
found objects 288–295
France, Kingdom of 271–274
Frankish blockade of Fāṭimid Ascalon 48–50, *50*, 69–73; Ascalon, survey of 51–55, *52*, 61; Bethgibelin, survey of 55, 61; Blanche Garde, survey of 56–57, 61; fortification of the kingdom's south-western frontier 50–51; Gadres (Gaza), survey of 57, 61; Ibelin, survey of 56, 61; King Fulk's plan 73; Summil (Summeil), survey of 58–60, *58–60*, 61; viewshed analysis 61–69, **63–64**, *63–69*
Frankish East 181–182, 214–215; Byzantine empire 201–204, *203*; coin evidence 188–197, *189–191*, *193–195*; contemporary minting tradition in the West and East 197–198; documentary evidence 182–188; existence of mints in different cities 184–188, *185*, *188*; Fatimid Empire 204–207, *205*; Medieval Europe 198–201, *199*; moneyers, money changers and goldsmiths 207–214, **208–209**, *212*
Franks and ceramic production 156–161, *159*, 179–180; Acre 168–169, *168–169*; Beirut 166–168, *167*; continuity and change 172–174; cultural identity of the potters 174–175; Cyprus and the Levant 169–170, 171; developing industries under the Franks 178–179; Lebanese and Syrian coast 171; organization of production centers 172; Paphos-Lemba 162–164, *163*; Principality of Antioch/Kingdom of Armenian Cilicia 164–166, *165*; Southern Levant 170–171; specialized production for export 175–178, *176*; wares and workshops 161–171
Fulk (King) 49–51, 72–73

Gadres (Gaza) 57, 62–68, 71–73
gates: Arsur Castle 89–91, *89–91*, 97–100, *98–100*; Belvoir Castle 324–328, *325–326*
Gaza *see* Gadres (Gaza)
goldsmiths 207–214, **208–209**, *212*

handmade ware industries 169–170
historical sources, agreement among 279–280; loopholes 282–287; manuscript 280–282; objects 288–295
Holy Land memorabilia 249–253
hooves 219–220
Hospitallers 107, *109*, 212–214, 259–263, 312–320, 326–327; and Arsur Castle 75, 77–82, 84–85, 89, 93, 96–105
horse and donkey shoes 216–217, *217*, 233–234; animal size in the Kingdom of Jerusalem 230–233, *232–233*; donkeys and mules 218–219, *219*; in the East 223–225; hooves 219–220; horses 217–218; nails 220–222, *221*; types in the Kingdom of Jerusalem 225–230, *226–227*, *229*; typology 222–223
horses 217–218; *see also* horse and donkey shoes

Ibelin 56, 66–68, 71–75
Ibelin Castle 5–28, *13*, *16–18*, *20–27*, 84, 88–91, 106
Ibelin family 75, 84–87, 106, 183
Ibelin phase of Arsur Castle 85–100, *89–93*, *95–96*, 103–106
Iberia 119, 127–130
identity *see* cultural identity
industries, developing 178–179

Jean II of Ibelin *see* Arsur Castle
Jerusalem/Kingdom of Jerusalem: animal size in 230–233, *232–233*; arrow-loops 259–265, *260–261*, *264–265*; horse and donkey shoes in 225–230, *226–227*, *229*; monumental painting in 132–155
Johns, C. N. 216, 225, 227, 230, 236–238, 241–247, 249
joints: Arsur Castle 92–96, *92–93*, *95–96*, 103–105

Knights' Hotel site 108–110, *109*
knowledge, current state of 117–119, 130–131; Eastern Baltic 124–127; Iberia 127–130; Latin East 119–124

landscape archaeology 117–119, 130–131; Eastern Baltic 124–127; Iberia 127–130; Latin East 119–124
Lebanese and Syrian coast 158, 171
Levant, the 119–120, 123–124, 156–157, 169–170, 173–174, 233, 251–252
locals and ceramic production 156–161, *159*, 179–180; Acre 168–169, *168–169*; Beirut 166–168, *167*; continuity and change 172–174; cultural identity of the potters 174–175; Cyprus and the Levant 169–170, 171; developing industries under the Franks 178–179; Lebanese and Syrian coast 171; organization of production centers 172; Paphos-Lemba 162–164, *163*; Principality of Antioch/Kingdom of Armenian Cilicia 164–166, *165*; Southern Levant 170–171; specialized production for export 175–178, *176*; wares and workshops 161–171
loopholes 279–287, *283–287*

main portal 89–90, *89*, 99
manuscripts 280–282; *see also Pardouns de Acre*
masonry walls 92–96, *92–93*, *95–96*, 103–105, *104–105*
materiality 247–249
merchants and ceramic production 156–161, *159*, 179–180; Acre 168–169, *168–169*; Beirut 166–168, *167*; continuity and change 172–174; cultural identity of the potters 174–175; Cyprus and the Levant 169–170, 171; developing industries under the Franks 178–179; Lebanese and Syrian coast 171; organization of production centers 172; Paphos-Lemba 162–164, *163*; Principality of Antioch/Kingdom of Armenian Cilicia 164–166, *165*; Southern Levant 170–171; specialized production for export 175–178, *176*; wares and workshops 161–171
methodology: Belvoir Castle 316; excavation at Arsur 77–83, *78*, *80–83*
minters and mints 181–182, 214–215; Byzantine empire 201–204, *203*; coin evidence 188–197, *189–191*, *193–195*; contemporary tradition in the West and East 197–198; documentary evidence 182–188; existence in different cities 184–188, *185*, *188*; Fatimid Empire 204–207, *205*; Medieval Europe 198–201, *199*; moneyers, money changers and goldsmiths 207–214, **208–209**, *212*
moats 40–44, *40–42*, 85–87, 316–322, 327
moneta 198–201, *199*, 215
monetarii 198–201, *199*

money changers 201, 204, 206–214, **208–209**, *212*
moneyers 198–201, 207–215, **208–209**, *212*
monumental painting 132–133, 155; and Eastern Christians in the Latin Kingdom 153–155; head of an angel from the Church of St. Anne 147–153, *148–149*, *151–152*; Saint Nicholas cycle 133–147, *134–138*, *140–142*
mother-of-pearl cross-pendants 235–236, 241–245, *243*, *244*, 253–254; context of discovery 236–240, *237*, *239–240*; evidence of a workshop 245–247, *246*; local and extra-regional networks 249–253, *251*; materiality and symbolic value 247–249
mules 218–219, *219*
mural paintings 132–133, 155; and Eastern Christians in the Latin Kingdom 153–155; head of an angel from the Church of St. Anne 147–153, *148–149*, *151–152*; Saint Nicholas cycle 133–147, *134–138*, *140–142*

nails 220–222, *221*
Near East 255–259, **256**, *257–258*; Armenian Kingdom in Cilicia 266–269; Kingdom of Cyprus/Principality of Achaïa 269–271; Kingdoms of France and England 271–273; Kingdom of Jerusalem and County of Tripoli 259–265, *260–261*, *264–265*; origins, diffusion and use of arrow-loops 273–278, *276–277*
non-destructive archaeology 5–27

objects 288–292, **288–290**, *291*; related to pilgrimage 110–112, *110–112*; *see also* found objects
organization of production centers 172
ornate rib 306
ostentation of arrow-loops 255–259, **256**, *257–258*; Armenian Kingdom in Cilicia 266–269; Kingdom of Cyprus/Principality of Achaïa 269–271; Kingdoms of France and England 271–273; Kingdom of Jerusalem and County of Tripoli 259–265, *260–261*, *264–265*; origins, diffusion and use of 273–278, *276–277*

paintings *see* monumental painting; mural paintings
Paphos-Lemba 162–164, *163*
Pardouns de Acre 107–116
passages 99–100, *101*, 317
paving 91, 100–103, *101–103*
pilgrimage 107–115, *110–112*, 119–122, 235–236, 248–253
portals 89–91, *89–91*, 97–100, *98–100*
potters 162–164, 172–175, 179–180
pottery *see* ceramic production
production centers *see* wares and workshops
projectile points 288–295, **288–290**, *291*

quarrels 280–281, 288–295

rectangular rib 306
rib vaults 303–306, **304**, *306*

Safed and Safed Castle 224, 279–280, 296, *299–302*, 300, 307–309; architectural analysis 307–309; chapel 297–298; epitaph of Muṣṭafā Sa‘aīd Barghūth 298; excavation of the cemetery 298; loopholes 282–287; manuscript 280–282; objects 288–295; rib vaults 303–306, **304**, *306*; template 300–302, *300–302*
Saint Nicholas cycle 133–147, *134–138*, *140–142*
sea portal 90
shoes *see* horse and donkey shoes
sikka 204, 215
sources *see* historical sources, agreement among
Southern Levant 170–171
Summeil *see* Summil (Summeil)
Summil (Summeil) 58–60, *58–60*
symbolic value 247–249
Syrian coast *see* Lebanese and Syrian coast

Tell es-Safe/Gath Archaeological Project 29–30, 46–47, *47*; description of excavated remains 30–32, *30*, **31**, *32*; fortress collapse 44–46, *45*; Fortress Wall 155505 37–40, *39*; northwestern corner fortifications 32–37, *33–35*, *37*; Terrace Wall 85420 40–44, *40–42*
Templar Castle Chapel 296; architectural analysis 307–309; epitaph of Muṣṭafā Sa‘aīd Barghūth 298; excavation of the cemetery 298; rib vaults 303–306, **304**, *306*; template 300–302, *300–302*
templates, rib-vault 299–308, *306*
Terrace Wall 85420 40–44, *40–42*
textual sources 280–28

tombstones 296, 298, *300*
Tripoli, County of 170, 259–265, *260–261*, *264–265*
two-roll rectangular rib 306
typology 222–223; projectile points 288–292, **288–290**, *291*; rib vaults **304**

viewshed analysis 61–69, **63–64**, *63–69*

walls: arrow-loops 261–263, 266–274; Arsur Castle 74, 86–90, 92–96, *92–93*, *95–96*, 103–105, *104–105*; Belvoir Castle 314–320, 327–328; and the Frankish blockade of Fāṭimid Ascalon 52–58, 65–67, 70–72; Ibelin Castle 6–7, 19–25; mural paintings 132–134
wares and workshops: Acre 168–169, *168–169*; Beirut 166–168, *167*; ceramic 161–171; Cyprus and the Levant 169–170, 171; Lebanese and Syrian coast 171; mother-of-pearl cross-pendants 241–247; organization of 172; Paphos-Lemba 162–164, *163*; Principality of Antioch/Kingdom of Armenian Cilicia 164–166, *165*; Southern Levant 170–171; specialized production for export 175–178, *176*